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Address.

FAREWELL ADDRESS OF DR. OLIVER WENDELL HOLMES TO THE MEDICAL SCHOOL OF HARVARD UNIVERSITY, NOVEMBER 28, 1882.*

I HAD intended that the recitation of Friday last should be followed by a few parting words to my class and my friends who might happen to be in the lecture-room. But I learned on the preceding evening that there was an expectation, a desire, that my farewell should take a somewhat different form; and not to disappoint the wishes of those whom I was anxious to gratify, I made up my mind to appear before you with such hasty preparation as the scanty time admitted.

There are three occasions upon which a human being has a right to consider himself as a centre of interest to those about him: when he is christened, when he is married, and when he is buried. Every one is the chief personage, the hero, of his own baptism, his own wedding, and his own funeral.

There are other occasions, less momentous, in which one may make more of himself than under ordinary circumstances he would think it proper to do; when he may talk about himself, and tell his own experiences, in fact, indulge in a more or less egotistic monologue without fear or reproach.

I think I may claim that this is one of those occasions. I have delivered my last anatomical lecture and heard my class recite for the last time. They wish to hear from me again in a less scholastic mood than that in which they have known me. Will you not indulge me in telling you something of my own story?

This is the thirty-sixth course of lectures in which I have taken my place and performed my duties as professor of anatomy. For more than half of my term of office I gave instruction in physiology, after the fashion of my predecessors and in the manner then generally prevalent in our schools, where the physiological laboratory was not a necessary part of the apparatus of instruction. It was with my hearty approval that the teaching of physiology was constituted a separate department and made an independent professorship. Before my time, Dr. Warren had taught anatomy, physiology, and surgery in the same course of lectures, lasting only three or four months. As the boundaries of science are enlarged, new divisions and subdivisions of its territories became necessary. In the place of six professors in 1847, when I first became a member of the faculty, I count twelve upon the catalogue before me, and I find the whole number engaged in the work of instruction in the Medical School amounts to no less than fifty.

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Since I began teaching in this school, the aspect of many branches of science has undergone a very remarkable transformation. Chemistry and physiology are no longer what they were, as taught by the instructors of that time. We are looking forward to the synthesis of new organic compounds; our artificial madder is already in the market, and the indigo-raisers are now fearing that their crop will be supplanted by the manufactured article. In the living body we talk of fuel supplied and work done, in movement, in heat, just as if we were dealing with a machine of our own contrivance. A physiological laboratory of today is equipped with instruments of research of such ingenious contrivance, such elaborate construction, that one might suppose himself in a workshop where some exquisite fabric was to be wrought, such as queens love to wear, and kings do not always love to pay for. They are, indeed, weaving a charmed web, for these are the looms from which comes the knowledge that clothes the nakedness of the intellect. Here are the mills that grind food for its hunger and "is not the life more than meat, and the body than raiment?"

But while many of the sciences have so changed that the teachers of the past would hardly know them, it has not been so with the branch I teach, or, rather, with that division of it which is chiefly taught in this amphitheatre. General anatomy, or histology, on the other hand, is almost all new; it has grown up, mainly, since I began my medical studies. I never saw a compound microscope during my years of study ~~in Paris~~. Individuals had begun to use the instrument, but I never heard it alluded to by either professors or students. In descriptive anatomy I have found little to unlearn, and not a great deal that was both new and important to learn. Trifling additions are made from year to year, not to be despised and not to be overvalued. Some of the older anatomical works are still admirable, some of the newer ones very much the contrary. I have had recent anatomical plates brought me for inspection, and I have actually buttonholed the book-agent, a being commonly as hard to get rid of as the tar-baby in the negro legend, that I might put him to shame with the imperial illustrations of the bones and muscles in the great folio of Albinus, published in 1747, and the unapproached figures of the lymphatic system of Mascagni, now within a very few years of a century old, and still copied, or, rather, pretended to be copied, in the most recent works on anatomy.

I am afraid that it is a good plan to get rid of old professors, and I am thankful to hear that there is a movement for making provision for those who are left in need when they lose their offices and their salaries. I remember one of our ancient Cambridge doctors once asked me to get into his rickety chaise, and said to me, half humorously, half sadly, that he was like an old horse,—they had taken off his saddle and turned him out to pasture. I fear the grass was pretty short where that old servant of the public found himself grazing. If I myself needed an apology for holding my office so long, I should find it in the fact that human anatomy is much the same study that it was in the days of Vesalius and Fallopius, and that the greater part of my teaching was of such a nature that it could never become antiquated.

Let me begin with my first experience as a medical student. I had come from the lessons of Judge Story and Mr. Ashmun in the Law School at Cambridge. I had been busy, more or less, with the pages of Blackstone and Chitty, and other textbooks of the first year of legal study. More or less, I say, but I am afraid it was less rather than more. For during that year I first tasted the intoxicating pleasure of authorship. A college periodical, conducted by friends of mine, still undergraduates, tempted me into print, and there is no form of lead-poisoning which more rapidly and thoroughly pervades the blood and bones and marrow than that which reaches the young author through mental contact with type-metal. *Qui a bu boira*, —he who has once been a drinker will drink again, says the French proverb. So the man or woman who has tasted type is sure to return to his old indulgence sooner or later. In that fatal year I had my first attack of authors' lead-poisoning, and I have never quite got rid of it from that day to this. But for that I might have applied myself more diligently to my legal studies, and carried a green bag in place of a stethoscope and a thermometer up to the present day.

What decided me to give up law and apply myself to medicine I can hardly say, but I had from the first looked upon that year's study as an experiment. At any rate, I made the change, and soon found myself introduced to new scenes and new companionships.

I can scarcely credit my memory when I recall the first impressions produced upon me by sights afterwards become so familiar that they could no more disturb a pulse-beat than the commonest of every-day experiences. The skeleton, hung aloft like a gibbeted criminal, looked grimly at me as I entered the room devoted to the students of the school I had joined, just as the fleshless figure of Time with the hour-glass and scythe, used to glare upon me in my childhood from the New England Primer. The white faces in the beds at the hospital found their reflection in my cheeks, which lost color as I looked upon them. All this had to pass away in a little time; I had chosen my profession, and must meet its painful and repulsive aspects until they lost their power over my sensibilities.

The private medical school which I had joined was one established by Dr. James Jackson, Dr. Walter Channing, Dr. John Ware, Dr. Winslow Lewis, and Dr. George W. Otis. Of the first three gentlemen I have either spoken elsewhere or may find occasion to speak hereafter. The two younger members of this association of teachers were both graduates of our University, one of the year 1819, the other of 1818.

Dr. Lewis was a great favorite with students. He was a man of very lively temperament, fond of old books and young people, openhearted, free-spoken, an enthusiast in teaching, and especially at home in that apartment of the temple of science where nature is seen in undress, the anthropotomic laboratory, known to common speech as the dissecting room. He had that quality which is the special gift of the man born for a teacher,—the power of exciting an interest in that which he taught. While he was present the apartment I speak of was the sunniest of studios in spite of its mortuary spectacles. Of the students I met there I best remember James Jackson, Junior, full of zeal and playful as a boy, a young man whose early death was a calamity to the profession of which he promised to be a chief ornament; the late Reverend J. S. C. Greene, who, as the prefix to his name signifies, afterwards changed his profession, but one of whose dissections I remember looking upon with admiration; and my friend, *Mr.* Charles Amory, as we call him, *Dr.* Charles Amory, as he is entitled to be called, then, as now and always, a favorite with all about him. He had come to us from the schools of Germany, and brought with him recollections of the teachings of Blumenbach and the elder Langenbeck, father of him whose portrait hangs in our museum. Dr. Lewis was our companion as well as our teacher. A good demonstrator is,—I will not say as important as a good professor in the teaching of anatomy, because I am not sure that he is not more important. He comes into direct personal relations with the students,—he is one of them, in fact, as the professor cannot be from the nature of his duties. The professor's chair is an insulating stool, so to speak; his age, his knowledge, real or supposed, his official station, are like the glass legs which support the electrician's piece of furniture, and cut it off from the common currents of the floor upon which it stands. Dr. Lewis enjoyed teaching and made his students enjoy being taught. He delighted in those anatomical conundrums to answer which keeps the student's eyes open and his wits awake. He was happy as he dexterously performed the *tour de maître* of the old barber-surgeons, or applied the spica bandage and taught his scholars to do it, so neatly and symmetrically that the aesthetic missionary from the older centre of civilization would bend over it in blissful contemplation, as if it were a sunflower. Dr. Lewis had many other tastes, and was a favorite, not only with students, but in a wide circle, professional, antiquarian, Masonic, and social.

Dr. Otis was less widely known, but was a fluent and agreeable lecturer, and esteemed as a good surgeon.

I must content myself with this glimpse at myself and a few of my fellow-students in Boston. After attending two courses of lectures in the school of the University, I went to Europe to continue my studies.

You may like to hear something of the professors of Paris in the days when I was a student in the École de Médecine, and following the great hospital teachers.

I can hardly believe my own memory when I recall the old practitioners and professors who were still going round the hospitals when I mingled with the train of students that attended the morning visits. See that bent old man who is groping his way through the wards of La Charité. That is the famous Baron Boyer, author of the great work on surgery in nine volumes, a writer whose clearness of style commends his treatise to general admiration, and makes it a kind of classic. He slashes away at a terrible rate, they say, when he gets hold of the subject of fistula in its most frequent habitat,—but I never saw him do more than look as if he wanted to cut a good collop out of a patient he was examining. The short, square, substantial man with iron-gray hair, red face, and white apron is Baron Larrey, Napoleon's favorite surgeon, the most honest man he ever saw,—it is reputed that he called him. To go 'round the Hotel des Invalides with Larrey was to live over the campaigns of Napoleon, to look on the sun of Austerlitz, to hear the cannons of Marengo, to struggle through the icy waters of the Beresina, to shiver in the snows of the Russian retreat, and to gaze through the battle smoke upon the last charge of the red lancers on the redder field of Waterloo. Larrey was still strong and sturdy as I saw him, and few portraits remain printed in livelier colors on the tablet of my memory.

Leave the little group of students which gathers about Larrey beneath the glided dome of the Invalides and follow me to the Hôtel Dieu, where rules and reigns the master-surgeon of his day, at least so far as Paris and France are concerned,—the illustrious Baron Dupuytren. No man disputed his reign,—some envied his supremacy. Lisfranc shrugged his shoulders as he spoke of *"ce grand homme de l'autre côté de la rivière,"* "that great man on the other side of the river," but the great man he remained, until he bowed before the mandate which none may disobey. "Three times," said Bouillaud, "did the apoplectic thunderbolt fall on that robust brain,"—it yielded at last as the old bald cliff that is riven and crashes down into the valley. I saw him before the first thunderbolt had descended. A square, solid man, with a high and full-domed head, oracular in his utterances, indifferent to those around him, sometimes, it was said, very rough with them. He spoke in low, even tones, with quiet fluency, and was listened to with that hush of rapt attention which I have hardly seen in any circle of listeners unless when such men as ex-President John Quincy Adams or Daniel Webster were the speakers. I do not think that Dupuytren has left a record which explains his influence, but in point of fact he dominated those around him in a remarkable manner. You must have all witnessed something of the same kind. The personal presence of some men carries command with it, and their accents silence the crowd around them, when the same words from other lips might fall comparatively unheeded.

As for Lisfranc, I can say little more than that he was a great drawer of blood and hewer of members. I remember his ordering a wholesale bleeding of his patients, right and left, whatever might be the matter with them, one morning when a phlebotomizing fit was on him. I recollect his regretting the splendid guardsmen of the old Empire,—for what? because they had such magnificent thighs to amputate. I got along about as far as that with him, when I ceased to be a follower of M. Lisfranc.

The name of Velpeau must have reached many of you, for he died in 1867, and his many works made his name widely known. Coming to Paris in wooden shoes, starving, almost, at first, he raised himself to great eminence as a surgeon and as an author, and at last obtained the professorship to which his talents and learning entitled him. His example may be an encouragement to some of my younger hearers who are born, not with the silver spoons in their mouths, but with the two-tined iron fork in their hands. It is a poor thing to take up their mild porridge with in their young days, but in after years it will often transfix the solid dumplings that roll out of the silver spoon. So Velpeau found it. He had not what is called genius, he was far from prepossessing in aspect, looking as if he might have wielded the sledge-hammer (as I think he had done in early life) rather than the lancet, but he had industry, determination, intelligence, character, and he made his way to distinction and prosperity, as some of you sitting on these benches and wondering anxiously what is to become of you in the struggle for life will have done before the twentieth century has got half way through its first quarter. A good sound head over a pair of wooden shoes is a great deal better than a wooden head belonging to an owner who cases his feet in calf-skin, but a good brain is not enough without a stout heart to fill the four great conduits which carry at once fuel and fire to that mightiest of engines.

How many of you who are before me are familiarly acquainted with the name of Broussais, or even with that of Andral? Both were lecturing at the École de Médecine, and I often heard them. Broussais was in those days like an old volcano, which has pretty nearly used up its fire and brimstone, but is still boiling and bubbling in its interior, and now and then sends up a spirt of lava and a volley of pebbles. His theories of gastroenteritis, of irritation and inflammation as the cause of disease, and the practice which sprang from them, ran over fields of medicine for a time like flame over the grass of the prairies. The way in which that knotty-featured, savage old man would bring out the word irritation,—with rattling and rolling reduplication of the resonant letter *r*—might have taught a lesson of articulation to Salvini. But Broussais's theory was languishing and well-nigh become obsolete, and this, no doubt, added vehemence to his defence of his cherished dogmas.

Old theories, and old men who cling to them, must take themselves out of the way as the new generation with its fresh thoughts and altered habits of mind comes forward to take the place of that which is dying out. This was a truth which the fiery old theorist found it hard to learn, and harder to bear, as it was forced upon him. For the hour of his lecture was succeeded by that of a younger and far more popular professor. As his lecture drew towards its close, the benches thinly sprinkled with students began to fill up; the doors creaked open and banged back oftener and oftener, until at last the sound became almost continuous, and the voice of the lecturer became a leonine growl as he strove in vain to be heard over the noise of doors and footsteps.

Broussais was now 62 years old. The new generation had outgrown his doctrines, and the professor for whose hour the benches had filled themselves belonged to that new generation. Gabriel Andral was little more than half the age of Broussais, in the full prime and vigor of manhood at 37 years. He was a rapid, fluent, fervid, and imaginative speaker, pleasing in aspect and manner,—a strong contrast to the harsh, vituperative old man who had just preceded him. His "Clinique Médicale" is still valuable as a collection of cases, and his researches on the blood, conducted in association with Gavarret, contributed new and valuable facts to science. But I remember him chiefly as one of those instructors whose natural eloquence made it delightful to listen to him. I doubt if I or my fellow-students did full justice either to him or the famous physician of Hôtel Dieu, Chomel. We had addicted ourselves almost too closely to the words of another master, by whom we were ready to swear as against all teachers that ever were or ever would be.

This object of our reverence, I might almost say idolatry, was one whose name is well known to most of the young men before me, even to those who may know comparatively little of his works and teachings. Pierre Charles Alexandre Louis, at the age of 47, as I recall him, was a tall, rather spare, dignified personage, of serene and grave aspect, but with a pleasant smile and kindly voice for the student with whom he came into personal relations. If I summed up the lessons of Louis in two expressions, they would be these: I do not hold him answerable for the words, but I will condense them after my own fashion in French, and then give them to you, expanded somewhat, in English:

> Formez toujours *des idées nettes.*
> Fuyez toujours *les à peu près.*

Always make sure that you form a distinct and clear idea of the matter you are considering.

Always avoid vague approximations where exact estimates are possible; *about so many,—about so much,* instead of the precise number and quantity.

Now, if there is anything on which the biological sciences have prided themselves in these latter years it is the substitution of quantitative for qualitative formulae. The "numerical system," of which Louis was the great advocate, if not the absolute originator, was an attempt to substitute series of carefully recorded facts, rigidly counted and closely compared, for those never-ending records of vague, unverifiable conclusions with which the classics of the healing art were overloaded. The history of practical medicine had been like the story of Danaides. "Experience" had been, from time immemorial, pouring its flowing treasures into buckets full of holes. At the existing rate of supply and leakage they would lead to results which would be trustworthy, and belong to science.

You young men who are following the hospitals hardly know how much you are indebteded to Louis. I say nothing of his Researches on Phthisis or his great work on Typhoid Fever. But I consider his modest and brief Essay on Bleeding in Some Inflammatory Diseases, based on cases carefully observed and numerically analyzed, one of the most important written contributions to practical medicine, to the treatment of internal disease, of this century, if not since the days of Sydenham. The lancet was the magician's wand of the dark ages of medicine. The old physicians not only believed in its general efficacy as a wonder worker in disease, but they believed that each malady could be successfully attacked from some special part of the body,—the strategic point which commanded the seat of morbid affection. On a figure given in the curious old work of John de Ketan, no less than thirty-eight separate places are marked as the proper ones to bleed in, in different diseases. Even Louis, who had not wholly given up venesection, used now and then to order that a patient suffering from headache should be bled in the foot, in preference to any other part.

But what Louis did was this: he showed by a strict analysis of numerous cases that bleeding did not strangle,—jugulate was the word then used,—acute disease, more especially pneumonia. This was not a reform, it was a revolution. It was followed up in this country by the remarkable discourse of Dr. Jacob Bigelow upon "Self-Limited Diseases," which has, I believe, done more than any other work or essay in our own language to rescue the practice of medicine from the slavery to the drugging system which was a part of the inheritance of the profession.

Yes, I say, as I look back on the long hours of the many days I spent in the wards and in the autopsy room of La Pitié, where Louis was one of the attending physicians,—yes, Louis did a great work for practical medicine. Modest in the presence of nature, fearless in the face of authority, unwearying in the pursuit of truth, he was a man whom any student might be happy and proud to claim as his teacher and his friend. And yet, as I look back on the days when I followed his teachings, I feel that I gave myself up too exclusively to his methods of thought and study.

There is one part of their business that certain medical practitioners are too apt to forget; namely, that what they should most of all try to do is to ward off disease, to alleviate suffering, to preserve life, or at least to prolong it if possible. It is not of the slightest interest to the patient to know whether three or three and a quarter cubic inches of the lung are hepatized. His mind is not occupied with thinking of the curious problems which are solved by his own autopsy,—whether this or that strand of the spinal marrow is the seat of this or that form of degeneration. He wants something to relieve his pain, to mitigate the anguish of dyspnea, to bring back motion and sensibility to the dead limb, to still the tortures of neuralgia. What is it to him that you can localize and name by some uncouth term the disease which you could not prevent and which you cannot cure? An old woman who knows how to make a poultice and how to put it on, and does it *tuto, cito, jucunde,* just when and where it is wanted, is better—a thousand times better in many cases—than a staring pathologist, who explores, and thumps, and doubts, and guesses, and tells the patient he will be better tomorrow, and so goes home to tumble his books over and make out a diagnosis.

But in these days I, like most of my fellow students, was thinking much more of "science" than of practical medicine, and I believe if we had not clung so closely to the skirts of Louis and had followed some of the courses of men like Trousseau,—therapeutists, who gave special attention to curative methods, and not chiefly to diagnosis, it would have been better for me and others. One thing, at any rate, we did learn in the wards of Louis. We learned that a very large proportion of diseases get well of themselves, without any special medication,—the great fact formulated, enforced and popularized by Dr. Jacob Bigelow in the discourse referred to. We unlearned the habit of drugging for its own sake. This detestable practice, which I was almost proscribed for condemning somewhat too epigrammatically a little more than twenty years ago, came to us, I suspect, in a considerable measure from the English "general practitioners," a sort of prescribing apothecaries. You know how, when the city was besieged, each artisan who was called upon in council to suggest the best means of defence, recommended the articles he dealt in: the carpenter, wood; the blacksmith, iron; the mason, brick; until it came to be a puzzle to know which to adopt. *"Then the shoemaker said, 'Hang your walls with new boots,"* and gave good reasons why these should be the best of all possible defences. Now the "general practitioner" charged, as I understand, for his medicine, and in that way got paid for his visit. Wherever this is the practice, medicine is sure to become a trade, and the people learn to expect drugging, and to consider it necessary, because drugs are so universally given to the patients of the man who gets his living by them.

It was something to have unlearned the pernicious habit of constantly giving poisons to a patient, as if they were good in themselves, of drawing off the blood which he would want in his struggle with disease, of making him sore and wretched with needless blisters, of turning his stomach with unnecessary nauseous draughts and mixtures,—only because he was sick and something must be done. But there were positive as well as negative facts to be learned, and some of us, I fear, come home rich in the negatives of the expectant practice, poor in the resources which many a plain country practitioner had ready in abundance for the relief and the cure of disease. No one instructor can be expected to do all for a student which he requires. Louis taught us who followed him the love of truth, the habit of passionless listening to the teachings of nature, the most careful and searching methods of observation, and the sure means of getting at the results to be obtained from them in the constant employment of accurate tabulation. He was not a showy, or eloquent, or, I should say, a very generally popular man, though the favorite, almost the idol, of many students, especially Genevese and Bostonians. But he was a man of lofty and admirable scientific character, and his work will endure in its influences long after his name is lost sight of save to the faded eyes of the student of medical literature.

Many other names of men more or less famous in their day, and who were teaching while I was in Paris, come up before me. They are but empty sounds for the most part in the ears of the men of not more than middle age. Who of you knows anything of Richerand, author of a very popular work on physiology, commonly put into the student's hand when I first began to ask for medical textbooks? I heard him lecture once, and have had his image with me ever since as that of an old, worn-out man,—a venerable but dilapidated relic of an effete antiquity. To verify this impression I have just looked up the dates of his birth and death, and find that he was eighteen years younger than the speaker who is now addressing you. There is a terrible parallax between the period before thirty and that after threescore and ten, as two men of those ages look, one with naked eyes, one through his spectacles, at the man of fifty and thereabout. Magendie, I doubt not you have all heard of. I attended but one of his lectures. I question if one here,—unless some contemporary of my own has strayed into the amphitheatre,—knows anything about Marjolin. I remember two things about his lecture on surgery,—the deep tones of his voice as he referred to his oracle,—the earlier writer, Jean Louis Petit,—and his formidable snuff box. What he taught me lies far down, I doubt not, among the roots of my knowledge, but it does not flower out in any noticeable blossoms, or offer me very obvious fruits. Where now is the fame of Bouillaud, professor and deputy, the Sargrado of his time? Where is the renown of Piorry, percussionist and poet, expert alike in the resonances of the thoracic cavity and those of the rhyming vocabulary? I think life has not yet done with the vivacious Ricord, whom I remember calling the Voltaire of pelvic literature,—a skeptic as to the morality of the race in general, who would have submitted Diana to treatment with his mineral specifics, and ordered a course of blue pills for the vestal virgins.

Ricord was born at the beginning of the century and Piorry some years earlier. Cruveilhier, who died in 1874, is still remembered by his great work on pathological anatomy; his work on descriptive anatomy has some things which I look in vain for elsewhere. But where is Civiale,—where are Orfila, Gendrin, Rostan, Biett, Alibert,—jolly old Baron Alibert, whom I remember so well in his broad-brimmed hat, worn a little jauntily on one side, calling out to the students in the courtyard of the Hospital St. Louis, *"Enfants de la méthode naturelle, êtes vous tous ici?"* "Children of the natural method (his own method of classification of skin diseases), are you all here?" All here, then, perhaps; all where, now?

My show of ghosts is over. It is always the same story that old men tell to younger ones, some few of whom will in their turn repeat the tale, only with altered names, to their children's children.

Like phantoms painted on the magic slide,
Forth from the darkness of the past we glide,
As living shadows for a moment seen
In airy pageant on the eternal screen,
Traced by a ray from one unchanging flame,
Thence seek the dust and stillness whence we came.

Dr. Benjamin Waterhouse, whom I well remember, came back from Leyden, where he had written his Latin graduating thesis, talking of the learned Gaubius and the late illustrious Boerhaave and other dead Dutchmen of whom you know as much, most of you, as you do of Noah's apothecary and the family physician of Methusaleh, whose prescriptions seem to have been lost to posterity. Dr. Lloyd came back to Boston full of the teachings of Cheselden and Sharpe, William Hunter, Smellie, and Warner; Dr. James Jackson loved to tell of Mr. Cline and to talk of Mr. John Hunter; Dr. Reynolds would give you his recollections of Sir Astley Cooper and Mr. Abernethy; I have named the famous Frenchmen of my student days; Leyden, Edinburgh, London, Paris were each in turn the Mecca of medical students, just as at the present day Vienna and Berlin are the centres where our young men crowd for instruction. These also must sooner or later yield their precedence and pass the torch they hold to other hands. Where shall it next flame at the head of the long procession? Shall it find its old place on the shores of the Gulf of Salerno, or shall it mingle its rays with the northern aurora up among the fjords of Norway,—or shall it be borne across the Atlantic and reach the banks of the Charles, where Agassiz and Wyman have taught, where Hagen still teaches, glowing like his own Lampyris splendidula, with enthusiasm, where the first of American botanists and the ablest of American surgeons are still counted in the roll of honor of our great University?

Let us add a few words which shall not be other than cheerful, as I bid farewell to this edifice which I have known so long. I am grateful to the roof which has sheltered me, to the floors which have sustained me, though I have thought it safest always to abstain from anything like eloquence, lest a burst of too emphatic applause might land my class and myself in the cellar of the collapsing structure, and bury us in the fate of Korea, Dathan, and Abiram. I have helped to wear these stairs into hollows,—stairs which I trod when they were smooth and level, fresh from the plane. There are just thirty-two of them, as there were five and thirty years ago, but they are steeper and harder to climb, it seems to me, than they were then. I remember that in the early youth of this building, the late Dr. John K. Mitchell, father of our famous Dr. Weir Mitchell, said to me as we came out of the Demonstrator's room, that some day or other a whole class would go heels over head down this graded precipice, like the herd told of in Scripture story. This has never happened as yet; I trust it never will. I have never been proud of the apartment beneath the seats, in which my preparations for lecture were made. But I chose it because I could have it to myself, and I resign it, with a wish that it were more worthy of regret, into the hands of my successor, with my parting benediction. Within its twilight precincts I have often prayed for light, like Ajax, for the daylight found scanty entrance, and the gaslight never illuminated its dark recesses. May it prove to him who comes after me like the cave of Sibyl, out of the gloomy depths of which came the oracles which shone with the rays of truth and wisdom!

This temple of learning is not surrounded by the mansions of the great and the wealthy. No stately avenues lead up to its façades and porticos. I have sometimes felt, when convoying a distinguished stranger through its precincts to its door, that he might question whether star-eyed Science had not missed her way when she found herself in this not too attractive locality. I cannot regret that we—you, I should say,—are soon to migrate to a more favored region and carry on your work as teachers and as learners in ampler halls and under far more favorable conditions.

I hope that I may have the privilege of meeting you there, possibly may be allowed to add my words of welcome to those of my former colleagues, and in that pleasing anticipation I bid good-by to this scene of my long labors, and, for the present at least, to the friends with whom I have been associated.

Original Articles.

NATURAL AND ARTIFICIAL CO_2 WATERS IN CARDIAC DISEASES.

BY SIMON BARUCH, M.D., NEW YORK,

Hydrotherapeutist to Sea View Hospital for Tuberculosis; Consulting Hydrotherapeutist to Bellevue Hospital; Formerly Professor of Hydrotherapy, College of Physicians and Surgeons, Columbia University, New York.

THE reputation of the Nauheim Springs in the management of heart disease has been established for many years by the fact that physicians from all countries, especially the English, have before the war habitually sent their patients to these springs. Indeed, so favorable have been the results that several artificial preparations for the production of CO_2 have attained more or less vogue in the treatment of cardiac diseases at home.

HISTORICAL.

My interest in this subject was aroused during a visit to Nauheim in 1895, to study the physiological action and therapeutics of its waters. In 1908 and 1913 I again visited this spa.

In 1895 I brought to this country and gave to Mr. Cassebeer, a professor in our School of Pharmacy, the Sandow Tablets for artificial CO_2 baths of which the Cassebeer and Triton preparations are reproductions.

In 1908 the Zeo Baths, which were highly recommended to me by Prof. Lacqeur in the Virchow Hospital, were experimented with in the Vanderbilt Clinic.

That there exist Natural CO_2 waters in this country, available for baths, had not been broached until my discovery in 1913 that there was no natural CO_2 bath obtainable in the State Bathhouse at Saratoga Springs. On my urgent initiative the decadent springs were brought up to their present efficiency (Report of Saratoga Reservation Commission, 1914) after my personal study of the principal European spas, made by request of the State authorities.

Dr. Joseph H. Pratt has well said (Transactions of the American Climatological Ass'n, 1914) "Of the physiological action of the carbon dioxide baths little is definitely known. . . . The literature abounds in impressions and speculations. . . There is not even an agreement whether the baths increase or diminish the work of the heart."

It has been my aim to find the reason for this difference and to obtain a rational explanation of the action of the Nauheim waters in cardiac diseases. On investigating the writings of various authors I found, almost invariably, the physicians using the natural Nauheim waters, agreeing with Groedel's most recent statement, "We have it in our power to put into action by gradual approach, the excitations which drive the heart to greater activity;" while those who experimented with artificial CO_2 baths, agree with Bezly Thorne that "the tension of the pulse is reduced, as a general rule."

I propose to explain this difference and to offer a correct rationale of the action of the Nauheim waters.

My investigations on this subject in Nauheim and at Saratoga Springs with *natural* CO_2 baths, and in the Montefiore Home and in Saratoga with *artificial* CO_2 baths, convince me that the *local action of the CO_2 is secondary.* The latter has, by some, been erroneously regarded as the most active element in the Nauheim Baths. This is probably due to their not having accurately imitated the Nauheim waters in their observations. The latter differ from all other CO_2 waters in the fact that *they contain a large proportion (about one pound to five gallons) of sodium chloride,* and one pound of calcium chloride. I regard the latter as inert.

I am convinced that the chief element in the therapeutic action of the Nauheim bath is ascribable to the *absorption* of CO_2 from the bath which results:

1. In the stimulation of the respiratory centers by the circulating CO_2 in the blood;
2. By its stimulation of the smooth muscular fibres of the vascular system and the heart;
3. The constringing action of the absorbed CO_2 upon the involuntary muscular fibres of the skin.

ABSORPTION OF CO_2.

That gases may be absorbed through the skin has long been known. Upon this point there appears to be no disagreement. Ottfried Miller and his aids mention it but do not appear to realize its importance. *(Sammlung Klinischer Vortraege,* No. 711-14, 1915.)

Experiments in the Erlangen Clinic by Dr. Winternitz (not the Vienna hydrotherapeutist) have demonstrated: *(a)* that CO_2 is absorbed slowly in a bath containing 1% sodium sulphate and carbonate; *(b)* absorption is more rapid and complete in a 2-3% sodium chloride bath.

It was ascertained that in such a bath there occurs a decided increase of the respiratory amplitude and that this is a specific action of the CO_2 baths which is absent in the case of other skin irritating baths, even when they increased oxidation, as in mustard baths. The cause of this enhancement of the respiration is found in the excitation of the respiratory center by the absorbed CO_2.

That the frequency was diminished and the inspiration deepened had been previously observed by others.

Experiments made, under my direction, by the official chemist of Saratoga Springs, demonstrate other advantages of the chloride of sodium addition to the artificial CO_2 bath; *viz.*, "it seems to make the water retain the gas better and therefore improve its supersaturation; there is far less loss of CO_2, only 1 to 2% of gas during a ten minute bath."

1. That CO_2 circulating in the blood in excess stimulates the respiratory center is a well-known physiological fact; an increase of 2% causing a tenfold energy of respiratory activity in health (Burton-Opitz). Starling (*Lancet*, 1915) gives CO_2 the first place as the hormone or chemical regulator of respiration. Therapeutically this enhancement of respiratory activity becomes of immense import, in that it must influence favorably the entire intrathoracic circulation, more especially the venous flow. The right heart is unloaded and the diastole prolonged, all of which must bring great relief from stases, which, by their production of edemas and causing retention of toxines from faulty tissue change, give the bedside clinician most anxiety and but too often close the scene. I am disposed to regard this action of the absorbed CO_2 as most important in temporarily restoring lost cardiac equilibrium. That judicious adaptation of the bath to each individual case is required is evident. It is remarkable that clinicians do not lay more stress upon this demonstrated action of CO_2.

Commenting upon my rationale of the Nauheim bath, Professor Groedel protests that there is already a dangerous increase of CO_2 in many cardiac cases. This has not been proven. On the contrary, there is high authority for the view that the cyanosis present in extreme cardiac failure is due to the absence of oxygen.

2. In the saline medium CO_2 enters the blood by rapid absorption. Here the chief action of this water is direct stimulation of the unstriped muscular fibres of the arterioles, arteries, and heart, improving the blood flow and preventing stases, which are the lethal factors in cardiac diseases.

The extent to which CO_2 baths increase blood pressure, pulse frequency, volume and tension, has been a bone of contention among investigators. Ottfried Miller and other laboratory reporters find little or no increase of blood pressure, while Groedel, Jacob, and others, who practice with natural CO_2 baths, report an increase. Most of them find bettered tone of vessels and improved cardiac conditions. My own observation, made with natural Saratoga waters, confirms the latter view.

The difference, in the observations of equally reliable clinicians, may be explained as follows: The action of water, air, and CO_2 gas upon the skin is determined by the temperature conducting capacity of these agents. Air and CO_2 gas differ materially in capacity of absorbing temperatures (cold and heat) and water absorbs temperature with far greater rapidity than either. The point at which the skin is indifferent to water, air or CO_2, as ascertained by changes of blood pressure, is 34 to 35 C. (93 to 95 F.) for plain water, and it is lower for atmospheric air, in ordinary humidity, 20 to 25 C. (68 to 77 F.) and for CO_2 gas it is still lower, *viz.:* 13.5 to 14 C. (57 F.) According to Senator and Frankenheimer (Therapie de Gegenwart, 1904) air, water and CO_2 gas differ still more positively in conductivity or capacity for transmitting temperature to objects. Taking the conductivity of air to be 100, that of CO_2 gas is inferior (almost one-half) to that of air, and almost infinitesimal when compared to water (1 to 54). Therefore, CO_2 conducts its own temperature, so slowly to the skin that it must be warmed by the temperature of the water long before the skin can be affected by it. The water temperature always dominates, because of its great temperature conductivity, both in the low and high temperature baths. This confirms the results of my clinical observation. ("Principles and Practice of Hydrotherapy," Wm. Wood & Co., Third Edition, p. 51.)

A very potent influence upon the circulation has been overlooked by all observers, *viz.:* the direct stimulation of the heart muscle by absorbed CO_2. We have experimental warrant for such cardiac stimulation in the fact that animals poisoned by CO_2 die with the heart in systolic contraction.

The hyperaemia of the skin is not due to vasomotor action, because it is discovered only in parts that are exposed to the CO_2 bath.

The main vasomotor action ensues when, as I have shown ("Principles and Practice of Hydrotherapy," Wm. Wood & Co., 1908, p. 50), the bath temperature is reduced below the neutral temperature (which is about 34 C. or 93.2 F.) for CO_2 water. The lowest temperature prescribed by Groedel and others, being 30 C. (86 F.) must produce some reflex vacomotor effect by excitation of the peripheral nerve endings, which fulfills my hydrotherapeutic law, *viz.:* the degree of difference between the water temperature and skin temperature governs the intensity of the peripheral excitation, and therefore of the reflex vasomotor action. A carbonic acid bath of 94 F. (neutral) would be indifferent to the skin, while a CO_2 bath of two to seven degrees lower, which is not uncommon in Nauheim, must produce thermic nerve excitation.

Groedel holds that "It is unnecessary to assume a direct effect from absorbed CO_2 gas upon the involuntary muscle fibres in order that there should be an irritant action. The mechanical irritation of the gas bubbles upon the peripheral nerve endings would suffice for this purpose; secondly, it is questionable whether or not we have here a thermic excitation through cold, in a bath of 32 C., to which I should reply that a difference of 2° C. between the bath water and the skin is certain to arouse a thermic excitation in the sensory terminals of the latter and produce reflex vasomotor action; and replying to the first, there is no such "mechanical irritation from bubbles" in the oxygen (Ozet) bath, in which reddening of the skin is absent.

Third, experiments made by myself in Bad Nauheim and in Saratoga Springs, have convinced me that a CO_2 bath produces on the unstriated muscular structures of the *skin* a constringing action similar to, but milder than, that produced by plain cold water.

Guided by the susceptibility of the dartos of the scrotum to cold as manifested by its ready contraction in cool air, I utilized this peculiarity of the scrotum for the purpose of ascertaining the effect of the CO_2 waters of these springs. There was noted an unmistakable formation of rugae in the scrotum of a man emerging from the Sprudel No. 12 Bad Nauheim (*N. Y. State Journal of Medicine*, June, 1916) while a plain water bath of the same temperature (93 F.) produced no effect. This constringing of the skin probably offers a mild but positive resistance to the flow of blood in the large peripheral surface, with the result of enhancing cardiac energy.

There is no reason to doubt that the same constringing effect is produced upon the less susceptible unstriped muscular fibres in the cutaneous surface of the entire body, though not so perceptible to the eye. It is not unreasonable to assume that this muscular contraction furnishes added resistance at the periphery, which promotes reaction, despite capillary dilatation.

HYPERAEMIA OF THE SKIN.

This accumulation of blood in the extensive cutaneous area withdraws a large quantity from the interior circulation and to that very considerable extent diminishes the labor of the heart, by reason of the *vis a fronte*. This is the chief advantage of the hyperaemia induced by the action of CO_2. It may lighten the burden of an insufficient heart. Other cutaneous irritants may accomplish the same object but they have the disadvantage, *e.g.*, mustard baths, of irritating the skin for a more or less definite period succeeding the bath; while hyperaemia from CO_2 bubbles disappears quickly after the termination of the bath. It is obvious that this irritation would handicap the heart if it persisted. Happily it is accompanied by the above mentioned phenomena which the author regards as paramount in the CO_2 bath.

SUMMARY.

It is plain that through the combined effect of all the elements furnished by the absorbed CO_2 baths, as described above, together with a mild vasomotor stimulation and a positive but moderate resistance at the periphery, the ventricle, already stimulated by absorbed CO_2 is made to propel the blood with more energy to all the outlying districts. This mild training of the heart appears to be productive of salutary conditions in the entire vascular system, for which the Nauheim waters have justly become famous.

COMPARISON OF THE NATURAL AND ARTIFICIAL CO_2 BATH:

The fact that CO_2 is regarded as the chief element in the Nauheim bath administered for cardiac diseases has led to the erroneous idea that the salines may be safely omitted, and more erroneous still, that the stronger CO_2 content the more efficient is the bath. The fallacy of this view is proved beyond doubt by the consensus of medical men who have made Nauheim the Mecca for sufferers from this disease, while other CO_2 springs like Kissingen, Brukenau, and Homburg, which contain from 15 to 25% more CO_2 supersaturation than the Nauheim water, are rarely prescribed for this purpose. *The chief difference between the Nauheim* *waters and those of the other springs mentioned is the large sodium chloride content of the first.* The value of the chloride of sodium in the furthering of absorption of CO_2 has been proved.

Regarding this as a control therapeutic test, unequaled in the history of medicine, I suggested to the superintendent of the fine CO_2 springs in Saratoga, that the Nauheim waters may be successfully reproduced by the addition of sodium chloride and calcium chloride, in sufficient quantity to approximate its saline content to that of the Nauheim Springs. It is gratifying to state that this official has arranged to have on hand properly weighed packages of these salines for the purpose of filling prescriptions for Nauheim baths without delay. These salines are dissolved in a bucket of water and poured into the tub *before* the CO_2 water enters it; the latter is heated in a movable steam coil to the temperature prescribed, so that physicians may follow the plan pursued in Nauheim in having their prescriptions filled at the temperature and percentage of gas and salines desired, with the utmost precision. In the artificial CO_2 bath, on the contrary, the percentage is not definite because it depends upon the size of the tub, which is rarely measured.

The duration of the Nauheim bath is from 6 to 15 minutes. It is therefore necessary that absorption of gas must be rapid. Here the superiority of the natural over the artificial CO_2 bath is again in evidence. The natural CO_2 water presents very fine bubbles and contains more dissolved CO_2 because it has been in age-long contact under pressure with the water in which it is dissolved. It does not escape as quickly from the bath as does the CO_2 from an artificial bath made with chemicals which is not under pressure. Indeed, the difference is very great. Baerwald and VonHeyde (Balneological Congress, 1909) have ascertained that the air immediately in contact with an artificial CO_2 bath contains 17.25% of CO_2, while the air above the natural CO_2 bath contains only 0.89%. Moreover, experiments made under my direction by the State chemist at Saratoga Springs, show that the total gas available from a CO_2 bath prepared with hydrochloric acid, 12 oz., and bicarbonate of soda, 8 oz., in 75 gallons of water is less than 11%, of which only $4^2/_3\%$ is supersaturation; while the Hawthorne Spring No. 1, which is used in Saratoga for baths, retains practically the same gas content as the average Nauheim bath, while the patient is taking the bath, and stirring the water.

For this reason I prefer the Hawthorn No. 1 for Nauheim baths (*i.e.* with salines). The stronger CO_2 water of the Lincoln Springs is better adapted for neuroses and rheumatic conditions, obesity, etc.

It is advisable for physicians sending heart cases to colleagues in Saratoga to state that *Nauheim baths are desired,* in order to insure the saline content.

ARTIFICIAL NAUHEIM BATHS.

Since the CO_2 generated from chemicals cannot be incorporated thoroughly with the bath water owing to absence of pressure, it escapes readily, as has been demonstrated by experiments. For this reason it is more important to add the salines dissolved in a bucket of water (one pound of sodium chloride to five gallons of water) into the tub before the chemicals are added. *The quantity of water should always be measured.*

In view of the above briefly stated chemical and physiological data, the natural CO_2 bath is certainly superior in cardiac diseases to the artificially produced.

In a recent correspondence with Sir William Osler on the subject of utilizing the waters of Spa in Belgium and St. Moritz in Switzerland, as is done in Saratoga, he writes, "No doubt the natural baths are much to be preferred. . . . I wonder could the Spa people not be stirred up a bit to do what Nauheim used to do so well."

Adding the improved hygienic environment of the patient at the springs the superiority of the natural CO_2 bath with salt becomes self-evident.

PNEUMONIA AND EMPYEMA.

By 1st Lieut. Horace Gray, Medical Corps, U. S. Army.

[From Medical Service, Base Hospital, Camp Devens, Mass.]

(*Continued from page 354.*)

23. *Digitalis.* This drug in the form of the tincture as obtained from various commercial houses, has been regularly found adequate to reduce the pulse, even during the fever, as Cohn has shown, to 80, 70 or 60. One cc. has been given by mouth 4 i.d., beginning on admission to the pneumonia ward, and this routine has

been continued day after day until the pulse has fallen to 80. Several ounces have often been used. No ill effects have been noted, and nausea has been the exception.

2d. Serum Treatment. The usual procedure has been:

a. Intradermal test soon after admission to pneumonia ward.

b. If no reaction in one-half hour, 0.5 cc. serum as s.c. desensitizing dose.

c. If type I was later reported and if patient was at all restless, morphin sulphate 0.008 was given s.c.

d. Type I serum 100 cc. was mixed with 100 cc. hot sterile saline.

e. Injection was by gravity through 18G needle into median vein at the rate of 15 cc. during the first 15 minutes.

f. If no ill effect, remainder was let run in in 10-15 minutes more. No ill effects have yet been encountered requiring intermission for ¾ hour, as has been recommended for such patients.

The ***first injection*** was given on the *6th* day of the disease, on the average. Unfortunately, none was given until the 3rd day, while one was not given until the 9th, and another as late as the 15th day. These last two both died.

The "6th day" above does not indicate as much tardiness on our part as it suggests at first, for from the point of the time in ***hospital*** before the first injection, the average was the 4th day in hospital, the earliest case having been treated on the day of admission and the latest on the 13th day in hospital. This leaves out of consideration the cases untreated because typed only from the heart blood post mortem.

The ***number of injections*** averaged 3. and went as high as 11. Of the four fatal cases, two had no injections (because typed only post-mortem), one had 5, and one 11.

The total ***amount of serum*** averaged *293* cc., varying from 40-1060 cc. The two largest figures were, in the two fatal treated cases, 875 and 1060 cc.

The ***reaction*** to serum was marked in four cases, moderate in four, slight in six, and absent in ten. The clinical notes are too brief to make clear whether these reactions were really anaphylactic or only thermal; but in at least two cases they appear to have been of the former type, although the previous intradermal test was negative in all of these fourteen patients who showed reactions. This surprising combination of events has been stated as in fact occurring, though rarely. (Walker, I. C., *Jour. Med. Res.*, 1916-17, xxxv, 497.)

The crisis occurred on the day after treatment in six cases, on the second day after treatment in five cases, third in two, fourth in two (one of whom died), fifth, four; sixth, two; fifteenth, in one; eighteenth, in one; and nineteenth, in one (who died). The average was the fifth day, but on account of the three cases with late falls of temperatures, by lysis rather than crisis, a fairer criterion might be the ***mean***, which was the *3rd* day. Even then, this series does not afford very strong evidence of the value of the type I serum supplied us.

The ***results*** were significant only for the delays, associated with the infrequency of type I's and the difficulty in securing what was at first considered sputum satisfactory for typing. There were 38 type I's, 12 of whom had begun to improve, and two died (one of septicemia and purulent peritonitis; the other of purulent pericarditis) before they were successfully typed. Of the remaining 24 patients treated, only one had two doses, the others only one. Serum was administered only on the third day of the disease in four cases; fourth, in five; fifth, in four; sixth, in three; seventh, in one; eighth, in four; ninth, in two (of whom one died, with pus in all three serous cavities of the chest); and fifteenth day in one patient (who died, also with pus in the three chest cavities). The mortality, then, of the 24 typed and treated I's was 8%. This satisfactory figure would appear offhand to be strong evidence of the value of our serum. We must recollect, however, that the type I organism seemed here not especially severe; our 38 type I's had less than 11% mortality. If we now discard the four fatal cases on the ground that they were so severe as to have been probably irredeemable by any amount of serum, we have left 34 cases: 22 treated and 12 untreated. As neither of these groups had a death and further, as the groups are relatively small, we might feel that our statistics could hardly be adduced in support of the faith that is in us with reference to Cole's teaching of the desirability of pushing specific serum to the utmost.

The ***intradermal test*** has been done as a routine in a great majority of the cases, on admission to the pneumonia ward. It was positive in only one. This did not happen to be a type I, but a measles-lobar-pneumonia with subsequent empyema. Register No. 5715, a private in Hq. Co., 25th Eng., had the usual technic (0.2 cc. of sterile horse serum diluted 1: 100 saline, given with a needle about 28 G.)· at 9.20 P.M., January 18. "At 9.40 the saline control had disappeared and there is a pea-sized white center and a surrounding irregular bordered red areola about 1½ x 2¼ inches. The reaction was unchanged after one hour. The s.c. desensitizing dose was postponed. At 10.40 P.M., the lesion not so vivid, color only slightly flushed. Patient complained of slight itching at point of injection, lasting only a very short time." (Lt. Bagnall.) At 11.45 P.M., it was noted (Lt. Rogers): "All traces of flushing disappeared. At 1.21 A.M., well marked urticarial eruption over the abdomen. Patient does not complain of pruritus. Between the urticarial wheals, or rather surrounding them, are varying sized areas of erythema." January 20: "A few large wheals with areola of erythema over left lumbar region." No further notes were made.

Serum Arthritis developed in only one patient, nine days after intravenous injection of 100 *cc.* type I serum, mixed with 100 *cc.* saline. Both wrists, the right shoulder, the right hip, right knuckles, and right knee. No record of duration of arthritis.

25. The *complications* worth noting were: Renal in 55% of the 485 cases, empyema in 27%, pericarditis in 3%, otitis media in 2%, pulmonary abscess, jaundice, and relapse, each in 1%. There were only two cases each of meningismus, conjunctivitis, phlebitis, and abdominal pain (typical peripheral diaphragmatic pleurisy spot below costal margin in nipple line, associated with typical central diaphragmatic pleurisy spot (referred) at lung apex behind). There was one case each of endocarditis and meteorism. Bedsores were striking by their absence.

26. Renal Complications. "It is not possible to make a sharp distinction between the so-called 'febrile albuminuria' and mild grades of *nephritis*, the matter is simply one of degree. . . . . The question must, therefore, be decided largely by the duration. If the albuminuria is simply due to the fever, it will disappear . . . . soon after the crisis." (Norris in "Osler-McCrae," p. 258).

Of our 485 pneumonias 33% showed albumin alone, 14% more had casts without blood, and another 8% had R.B.C. This leaves less than half the cases to escape kidney involvement, so that the conclusion seems evident that every pneumonia should have a renal test not only on admission, but again before leaving the hospital.

TABLE XXIII. SERUM TREATMENT.

No. of Injections			Time of First Injection			Crisis			Crisis			Amt. Serum		
No. of Inj.	No. Cases	No. Died	Day of Disease	No. Cases	No. Died	Day of Disease	No. Cases	No. Died	Day after First Injection	No. Cases	No. Died	Cubic cm.	No. Cases	No. Died
0	14	2	1st	0		1st	0		1st	6		40	1	
1	10		2nd	0		2nd	0		2nd	5		45	1	
2	5		3rd	4		3rd	1		3rd	2		50	1.	
3	3		4th	5		4th	1		4th	2	1	75	1	
4	1		5th	4		5th	1		5th	4		80	1	
5	2	1	6th	3		6th	2		6th	2		90	1	
6	1		7th	1		7th	1		7th	0		100	4	
7	1		8th	4		8th	5		8th	0		125	1	
8	0		9th	2	1	9th	2		9th	0		200	3	
9	0		10th	0		10th	4		10th	0		280	1	
10	0		11th	0		11th	1		11th	0		330	1	
11	1	1	12th	0		12th	1	1	12th	0		330	1	
			13th	0		13th	1		13th	0		500	1	
			14th	0		14th	0		14th	0		600	1	
			15th	1	1	15th	1		15th	1		640	2	
						16th	0		16th	0		875	1	1
						17th	0		17th	0		1060	1	1
						18th	0		18th	1				
						19th	2	1	19th	1	1			
						20th	0							
						21st	1							
Ave. 3	38	4	Ave. 6th	24	2	Ave. 10th	24	2	Mean 3rd	24	2	Ave. 293	24	2

27. *Pericarditis* occurred:

a. Infrequently, *i.e.,* in only 3% of 485 pneumonias.

b. Out of these 14 cases, 11 times with pus to 3 times without.

c. More often, contrary to expectation with *right*-sided pneumonia: Right, 1; left, 1; with bilateral pneumonia 5 times.

d. With empyema pleurae 11 times, to 3 times without.

e. With *50* to *400* cc. of pus, the average of the 11 being *174* cc.

28. *Otitis Media* was present in 3% of the 485 cases. It resulted in several mastoid operations, but was not followed in any case by septic meningitis, as reported by Alexander. (Hemolytic Streptococcus at Camp Zachary Taylor, *Jour. A.M.A*, March 16, 1918, *70*, p. 775).

(To be continued.)

American Medical Biographies.

LOUIS HÉBERT (-1627).[*]

Every student of Canadian history knows that from the first days of the colonization of New France an important rôle as colonists was played by members of the medical profession. If they were not remarkable for any great professional brilliancy, they were generally men of sterling character and courage.

Louis Hébert, apothecary, surgeon, and agriculturist, is regarded, next to Champlain, as the "Father of New France." When Champlain induced his old friend of Port Royal to venture once more to become a colonist of New France, he knew he had accomplished a greater work in building up his colony than had been done since its foundation. For Louis Hébert had proved his worth at Port Royal, not only as a surgeon, but as a keen and ardent agriculturist.

When Champlain returned to France in 1617, his mind filled with the wondrous future he was planning for Quebec, he knew it was of vital import to obtain as colonists men of the best type, not jail-birds such as Roberval had had to contend with, not mere adventurers, who came for love of adventure or gain and went away again, but men who would cultivate the land. And so the thought of his friend came to him—Louis Hébert, who had cultivated such beautiful gardens at Port Royal, until that settlement was destroyed by Samuel Argall, when Hébert returned to France. Louis Hébert had received a good education, for his father was a man of repute, being apothecary to Catherine de Médicis. Louis followed his father's business and had a shop on the banks of the Seine, where he was well patronized, but in the summer of 1606, he suddenly announced to his friends and relatives that he was sailing with Poutrincourt and fifty other colonists for the New World, of which there had lately been so much talk. Among others who sailed in the ship was the Parisian lawyer, historian and poet named Lescarbot, the friend and lawyer of Poutrincourt. It is to Lescarbot that we are indebted for the vivid portrayal of how the first winter in the new settlement at Port Royal was passed. "For my part," writes Lescarbot, "I can say that I never worked so hard in my life. I took pleasure in laying out and cultivating my gardens, in making alleys, in building summer-houses, growing wheat, rye, barley, oats, beans, peas, and garden plants, and in watering them, for I was most anxious to find out, by personal experience, the quality of the soil."

With Lescarbot worked Hébert, and the days were not long enough for these two enthusiastic agriculturists; they must needs work by moonlight, digging and planting. Lescarbot and Hébert returned to Paris in the autumn of 1607, but Hébert, after a short stay, came back to Port Royal, accompanied by Biencourt, Poutrincourt's son. He assisted Biencourt in managing and taking care of those colonists who had remained, and when Biencourt was absent acted as lieutenant, until the place was destroyed in 1613, by the English. Hébert then returned to Paris, as he thought, for good, and once more opened his shop on the banks of the Seine.

When Champlain arrived in France, in 1617, he visited Hébert and so beguiled him with his marvellous accounts of the country about Quebec that Hébert again sold his possessions and with his family started for Honfleur, where he arrived on March 14. Champlain had induced a new fur trading company to promise to support Hébert and his family for two years, and afterwards to make him an allowance of two hundred crowns for three years.

On arriving at Honfleur, Hébert found, to his chagrin and dismay, that all the promises which the company had held out to him were false.

[*] From the forthcoming "American Medical Biography," by Dr. Howard A. Kelly and Dr. Walter L. Burrage. Any important additions or corrections will be welcomed by the authors.

In vain did Hébert appeal for fair treatment. The company refused to keep their promises; they offered him one hundred crowns, instead of two hundred, and, moreover, required his bond for free medical attendance at all times to the settlers and to the clerks belonging to their company. Hébert was at their mercy, but rather than return to Paris, for he had disposed of all his effects, he embarked with his family for the New World.

Their passage was a stormy one, and when they reached Newfoundland the ship encountered a great field of icebergs. At one time it seemed as if all on board must perish. Father Joseph, one of the passengers, knelt upon the deck and prayed for Divine assistance, and we are told, in the "Relations of the Jesuits," that Madame Hébert took Marie Rollet, her youngest child, and held her up through the hatchway, that she might receive the father's blessing. It was on this long and stormy voyage of thirteen weeks and a day that the courtship of Anne, the eldest daughter of Hébert, commenced. Among the passengers was one Etienne Jonquest, a sturdy son of Normandy. He wooed Anne so successfully that the two were married in the autumn by Father le Caron. This was the first marriage in Canada, according to church rites, but Anne had a short wedded life, for she died in 1619 and was followed by her husband within a few weeks.

Louis Hébert chose for the site of his future home in Quebec, land on the height above—later called Mountain Hill, part of which was between the present streets of Famille and Couillard. He lost no time in building his home, a substantial stone house, 38 feet in length by 19 in width, the best house, for many years to come, in Quebec, and the first dwelling in what was afterwards the upper town, for as yet Champlain had not built his fort on the cliff. Not far from the house ran a stream of pure water, and this had decided Hébert in his choice of a site. For ten years Hébert toiled like any hardy peasant upon his farm. He sowed Indian corn and vegetable seeds, planted apple trees and his beloved grape vines. All his spare time, when not attending to the sick, was devoted to his agricultural pursuits. Every year he cleared more ground and tried fresh experiments in farming; every year his farm became more and more productive. He was able, almost from the first, to support his family on what he raised, and this, in spite of the fact that the company forced him to sell them his grain at a price fixed by themselves, one of the many acts of injustice rendered him by the company. The farm was the show farm of Quebec—the model farm, so to speak, of the day. From this time agriculture began to find its place in New France, and in these golden days of Canada's greatness, she may well be proud of her first farmer.

The life of this clever, original Frenchman was crowned with interest from the day he first left Paris and settled at Port Royal to his final home in Quebec. Through innumerable hardships and difficulties he had struggled on with unfailing courage and hope. He had accomplished wonders during his ten years' residence at Quebec. In January, 1627, a great sorrow came upon his friends. Hébert fell on the ice when he was crossing a river and died shortly afterwards from the effects of the fall. They buried him amidst great grief in the cemetery of the Recollet Fathers, at the foot of the cross. Only three days before the accident, Hébert had visited the Fathers and, as though he had a premonition of his death, he had requested that when the event took place, he should be buried in that spot.

M. CHARLTON

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Book Review.

War Surgery of the Abdomen. By CUTHBERT WALLACE, C.M.G., F.R.C.S., Eng., M.B., B.S., Lond., Surgeon, St. Thomas' Hospital; Lecturer on Surgery in the Medical School; Consulting Surgeon, British Armies in France. With 26 Illustrations. Philadelphia: P. Blakiston's Son & Co. 1918.

This is a book of 150 pages, admirably printed and illustrated, and is to be commended for careful study. Obviously so enormous a subject as War Surgery of the Abdomen must be very greatly condensed in order to be placed within the limit of 150 pages: nevertheless, such monographs as this are of the utmost value in arriving at ultimate conclusions. Wallace's pages bear witness to the fact that he is an admirable surgeon of wide experience and common sense, and possessed of the unusual ability to say much in a few words.

It is to be hoped that this little book, like previous volumes, will attain a wide popularity, which it greatly deserves.

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MEDICAL REFORM FOR IRELAND.

The *Medical Press* in its February 12th edition contains a very pertinent article read by Thomas Hennessy, F.R.C.S.I., D.P.H., before a recent meeting of the Royal Academy of Medicine in Ireland. The title of Dr. Hennessy's subject is "Medical Reform for Ireland," and in this paper he has set forth some views on the medical situation in that country which are "unofficial and non-committal so far as the profession in Ireland is concerned." As a dispensary doctor for almost 20 years in the County Tipperary, under the Poor Law Service, Dr. Hennessy tells us that between 50 and 70 per cent. of the Irish population are at present receiving their medical treatment as "poor persons." But this is not, he says, the fault of the Irish people; rather does the responsibility rest on the legislators who manifest a shocking indifference toward the medical needs of the country. In view of the expectation that there will be before long a Ministry of Health established in Ireland, Dr. Hennessy outlines a scheme of local organization whereby those entitled to treatment will be able to obtain it in a manner suited to their individual needs. There is in Ireland no system of public health, there is no health inspection in the schools, and the medical benefits of the National Health Insurance Act do not apply in Ireland. It is not because the country as a whole is healthier than other civilized countries that health legislation is so curtailed,—for example, the death rate from tuberculosis, which is declining in Great Britain, stands stationary in Ireland. The crying need for better medical service is voiced not alone by the medical profession, but by the entire population as well, and still nothing is done. Now, however, the time has come indeed for a period of universal reconstruction, and reformation of the medical situation in Ireland deserves immediate attention.

Local statistics have shown that the dispensary doctors attended and registered 610,322 new cases in a year. The number actually attended would be very nearly double the number of new cases, or 1,220,644. As remuneration for their services in attending these patients in 1917, the dispensary doctors received approximately £130 per year. Among these doctors are many men of advanced years whose meagre salary has never permitted them to save enough to retire and who must keep on practising for their livelihood. This is, of course, equally as bad for the public who must depend on the dispensary physician.

In 1910 a referendum of the Irish profession was taken, and considerably over 90% of the entire profession voted for a National Medical Service with entrance by competitive examination, and placed under the control of a Board containing a due proportion of medical men, elected by the service, with laymen chosen by the county councils. Because of the various areas into which Ireland is divided, a mixed system of public health is deemed most satisfactory. In the rural areas it is thought advisable to place one doctor in charge. This man, a successful candidate under competitive examination, would assume office under the County Health Commissioner and his duties would be to attend all insured persons and their dependents, the destitute poor, and possibly some others. For this he would receive a minimum salary of £350 a year with increase until a maximum of £500 was attained, with permission to practise privately in his locality. Provision for his resignation, if necessary, and for his family on his death, if he satisfactorily performs his task, would be considered, and promotion on the basis of character while he is in office also provided for.

This is but one example of many possible changes in the present system of medicine in Ireland. In view of the fact that the salary of the dispensary doctor has changed but little in the past 50 years such arrangement would be a welcome one to the man who gives most of his time and his energy for charity. The fact that the popularity of the poor law system has perhaps contributed greatly to its abuses is evident, but from the economical point of view of the physician such a service is to him utterly inadequate for a livelihood. Dr. Hennessy has clearly pointed out that a nation cannot expect to maintain its life and health unless the interests of its medical profession are protected.

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WORLD LEAGUE OF RED CROSS SOCIETIES.

Thirty days after peace has been declared, there is to be held in Geneva, Switzerland, a conference of the Red Cross Societies of the world, to present a program for coördinating the efforts of all Red Cross organizations in the common interest of humanity. It is hoped that a league of Red Cross Societies may be formed which will strive not only to relieve human suffering wherever it may exist, but also to prevent it, and strengthen the spirit of brotherhood among all peoples. Officers and committees have been appointed to carry on the peace work of the organization, with Dr. Livingston Farrand now the permanent chief executive of the American Red Cross.

Representatives of Red Cross Societies of the United States, Great Britain, France, Italy, and Japan have held preliminary meetings at Cannes and Geneva, for the purpose of formulating a program of extended Red Cross activities. Their first efforts will be to cover the subjects of public health and sanitation, tuberculosis, nursing, child welfare, and malaria, and certain other infectious diseases. *The Red Cross News* has summarized as follows the results which may be expected from this world-wide organization:

> It would awaken the peoples in every country of the world to a sense of their obligations to their fellow men, and there would naturally follow in each country an awakening to the needs within that country and a determination to meet them as far as possible.
>
> It would throw light on the darkest corners of the earth and would give to all the world the full benefit of scientific study and experience in the prevention and cure of disease.
>
> It would make possible the immediate coöperation of the various organizations to render aid when necessary in the case of great disasters.
>
> If it had been possible to effect this organization two years ago it is conceivable that there would be going today to the various countries now in distress, supplies and aid which would give comfort to and restore to health millions of people who cannot now be cared for. No one knows how many millions have died during the past years from influenza.
>
> The losses of India in the war were about 100,000 and deaths from influenza in that country alone are estimated to be about 2,500,000.

The proposed extension of Red Cross activities will promote the welfare of humanity throughout the world; in the fulfillment of its plans, the Red Cross will need the sympathy and the support of the whole American people.

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THE DRUG EVIL AND THE DRUG LAW.

The Department of Health of New York City has issued recently a monograph entitled "The Drug Evil and the Drug Law," which presents an analytical review, for the information of the medical profession, the drug traffic, and the general public, of the provisions of the "Narcotic Drug Law" adopted in New York on May 13, 1918. In recent years, the "drug evil" has become more powerful as a public menace, and it has been estimated that from one to two per cent. of the population of the country are addicted to the use of drugs. Efforts have been made by the United States to secure the coöperation of other governments; to this end, an International Convention was held at the Hague in 1911-12. At the same time, various states began to recognize the extent to which the evil was spreading and began to be aroused to opposition. By 1912, thirty states had taken some action against the danger by enacting anti-narcotic laws. The first decisive step taken in the State of New York was in 1913, when a law was passed to control the manufacture, sale, and distribution of cocaine.

Meantime, the Federal Government was not inactive, and passed the Harrison Law as a revenue measure, to go into effect on March 1, 1915. In 1916, various measures proposed to control the evil were incorporated in one bill, which failed to be passed. A committee was appointed, however, to investigate the subject and to suggest legislation which might be expected to cope with the problem. The committee discovered that the drug traffic continued to increase and conditions revealed a deplorable situation. The heroin habit, particularly, reached extremely large proportions in New York State. Ten per cent. of the cases dealt with in the Court of Special Sessions of New York County is made up of drug addicts, and it is probable that at least 100,000 people in the State of New York are suffering from drugs.

In 1917, the Whitney bill was passed, with noticeable results. The underworld traffic received substantial check, and treatment by physicians was encouraged. In 1918, another evil manifested itself: it was found that physicians prescribed drugs not for the purpose of alleviating suffering, but to keep the victim supplied with drugs and so reap dishonorable profit for themselves. This practice, reprehensible as it was, did not involve a large number of physicians, and was less vicious than general underworld peddling of narcotics. Greater interest began to be shown in the cure and treatment of drug addicts, with a consequent divergence of opinion. Two conclusions, however, which are drawn in this pamphlet, do not appear to conflict seriously; one, that there is no known specific remedy for the cure of a drug addiction; two, that the cocaine habit responds more readily to treatment than the narcotic habit. The value of sanatorium or institutional care as compared with attendance upon the general practitioner became a subject for contention, and some of the advantages and disadvantages of both systems are reviewed in this monograph.

Although the statutes of New York, including the "Narcotic Drug Law," passed in 1918, are of a high standard and are a distinct forward step, it is probable that no statute is adequate, under the existing conditions, to cope with the situation. Drug addiction is an evil which exists to a deplorable extent throughout the country. The writer of this article believes that permanent and adequate relief can be obtained only by International Convention and agreement and the subsequent control from inception, of habit-forming drugs imported into or produced or manufactured in this country, by the Federal Government.

A UNITED HEALTH SERVICE.

In the *Public Health Report* issued for February 28, 1918, B. S. Warren, Assistant Surgeon-General of the United States Public Health Service, has outlined the advantages which might be gained by bringing about the organization of a United Health Service. Hygienic conditions are investments which pay, not only in the saving in human life and suffering, but also in dollars and cents. Of this, the achievement of Gorgas, Carter, and their assistants in the Panama Canal is an example. The health work which has protected the soldiers in the camps of this country during the mobilization of millions of men, and the coöperation of military and civil health authorities in the camps and in zones about the camps show to what a degree communicable diseases can be controlled by united effort.

In considering whether or not an adequate health machine is worth while, it is suggested that health records be examined and the results which may be expected weighed according to three standards: (1) the human standard of sorrow and suffering caused by preventable diseases, (2) the actual cost in money of preventable sickness, and (3) the saving to the State of the economic values lost in preventable sickness and death. It is impossible to place a money value on the sorrow endured by a mother over the loss of her baby from some preventable disease; still, over 16 per cent. of all deaths annually in the United States are among infants under one year of age. In considering the actual cost in money of preventable sickness, it has been estimated that the elimination of typhoid fever in Alabama would save $780,000 per annum.

In analyzing the responsibilities and relations of Federal, State, and local health authorities, it will be found that the duties of these agencies are in some degree identical. The Federal Government has at least three definite responsibilities in the field of public health—international control of disease, interstate control of disease, and a general interest in the health of all the people from the general welfare point of view. The State is concerned with the prevention of the introduction of disease from without, the control of the intercounty, or intermunicipal spread of disease, and the health of all the people within the State from a point of view of general welfare. The local government administrations have similar responsibilities—the prevention of the introduction of disease from without, the control of disease within the jurisdiction, and health of the people in general.

With a proper organization, distribution, and training of the medical and sanitary personnel of the country, and a proper expenditure of the funds now being spent for medical purposes, the writer of this article believes it would be possible to make available to every person adequate medical and hospital services and supplies, and recommendations for the improvement of the State health organizations are included in this report.

"ROOSEVELT INSTITUTE OF AMERICAN FAMILY LIFE."

A "Roosevelt Institute of American Family Life," to be developed in connection with the Eugenics Records Office of the Carnegie Institution at Washington, has been proposed to the Roosevelt Permanent Memorial National Committee by the Eugenics Research Association of Cold Spring Harbor, Long Island. Announcement of this project was made recently at the headquarters of the Memorial Committee at 1 Madison avenue, New York City. The Eugenics Research Association, which made the proposal, owns eighty acres of land in Roosevelt's own voting precinct and has already laid the foundation for the study of the factors controlling American family life. The plan calls for a memorial institute to be situated in the town of Oyster Bay. "This memorial institute," the Association declares, "will strive to advance those ideas of responsible and patriotic parenthood for which Theodore Roosevelt so valiantly battled."

The Eugenics Research Association has addressed a formal memorial to the Theodore Roosevelt Permanent Memorial National Committee. The statement runs in part as follows:

To the Roosevelt Permanent Memorial National Committee,

A MEMORIAL:

We respectfully call your attention to the following factors which contribute to the fitness of this suggestion:

1. The Roosevelt Memorial should be something of permanent and dynamic value to the American people.
2. It should, like the man in whose memory it is built, battle for the advancement of the eugenical ideal in American family life as opposed to economic ease without family responsibilities.
3. The Memorial should be located in Roosevelt's own neighborhood, in the vicinity of Sagamore Hill, to which shrine pilgrimages will be made for all time to come.
4. The safety of the foundation fund could be absolutely secured by placing it as a trust with the Carnegie Institution at Washington, which has already taken over the Eugenics Record Office located in Theodore Roosevelt's own neighborhood. Funds entrusted to this institution would be assured of proper use in exact accordance with their donor's wishes.
5. Its proximity to New York City makes the Oyster Bay neighborhood an exceptionally fitting place for the location of an institute devoted to the advancement of Roosevelt's ideas of racial vigor because:

    a. Within 200 miles of Oyster Bay 20% of the population of the United States reside. Among these residents there exists a great conflict between the desire for economic ease and the call to responsible parenthood.

    b. Facilities for social and economic research and pedigree investigation are at hand: in Oyster Bay town—the Eugenics Record Office, and in New York City—the great libraries, and the headquarters of many social research institutions of national scope.

The Roosevelt Permanent Memorial National Committee was appointed by Chairman Will H. Hays, of the Republican National Committee, early in February, under the chairmanship of Colonel William Boyce Thompson. Ex-President William H. Taft and Hon. Charles Evans Hughes, Republican nominee for President in 1916, are honorary chairmen of the Committee. Among the vice-presidents and members are men of such national distinction as Senator

Lodge, Senator Hiram Johnson, General Leonard Wood, Admiral Peary, Dr. Lyman Abbott, Cardinal Gibbons, John Burroughs, Senator Poindexter, and numerous other senators, congressmen, and governors, as well as representatives of business, agriculture, labor, and education. The committee has opened national headquarters at 1 Madison avenue, New York City.

TETANUS TREATMENT IN ENGLISH MILITARY HOSPITALS.

During the entire course of the war, from the early autumn of 1914 through the autumn of 1918, tetanus was a very common and very often fatal infection of wounds received in combat. From time to time summaries have been produced in the *British Medical Journal* which show the relative mortality per cent. among victims of this disease who were treated in home military hospitals. Following is the analysis of 1,226 cases through April, 1918:

1914-1915: Cases, 231; recovered, 98; died, 133; mortality, 57.7%.
1915-1916: Cases, 195; recovered, 99; died, 96; mortality, 49.2%.
Aug.-Oct., 1916: Cases, 200; recovered, 127; died, 73; mortality, 36.5%.
Oct.-Dec., 1916: Cases, 100; recovered, 69; deaths, 31; mortality, 31%.
Dec, 1916,-March, 1917: Cases, 100; recovered, 81; died,19; mortality, 19%.
March-June, 1917: Cases, 100; recovered, 71; died, 29; mortality, 29%.
June-Sept., 1917: Cases, 100; recovered, 85; died, 15; mortality, 15%.
Sept.-Dec., 1917: Cases, 100; recovered, 84; died, 16; mortality, 16%.
Dec., 1917-April, 1918: Cases, 100; recovered, 76; died, 24; mortality, 24%.
Total: Cases, 1,226; recovered, 790; died, 436; mortality, 35.5%.

When the fight was most severe in richly cultivated lands, the high-water mark of death rate was reached,—before the prompt injection of antitetanic serum was made a part of the routine treatment of wounds. In the seventh and eighth analysis the low mortality rate is believed to have been the result of the addition of anti-gas-gangrene serum as well, because it was found that the toxin of gas gangrene bacillus markedly stimulates the growth of the tetanus bacillus.

The period of incubation ranged from three days (the shortest period) to the longest, no fewer than 536 days—incubation in these cases meaning the interval which elapsed between the date of wound and the onset of tetanus symptoms. The lowest average incubation period of the nine series analyzed was 13.4 and the highest 67.0 days. It is stated that as far as the effect which prompt injection of the antitoxin has on the mortality rate, figures are not at all conclusive on this point, but it is also stated that the treatment of tetanus by carbolic acid or magnesium sulphate has been definitely abandoned in England. Whether a wound be complicated by a fractured bone or not, appears to make no difference in the rate of mortality; and Sir David Bruce, who addressed the Society of Tropical Medicine and Hygiene in 1917 on the subject of tetanus, finds from the figures analyzed no case either for or against the intrathecal route as a method of injection.

A DISTINGUISHED NONAGENARIAN.

It is always a pleasant duty to offer congratulations to a colleague who has survived the vicissitudes of a long professional career and is entering in fair health and spirits upon another year of useful service. But the opportunity to do so to one who is entering upon his ninth decade is so rare that we venture to call our readers' attention to the fact that a notable anniversary occurred on February 27th last, when Dr. Horatio Robinson Storer celebrated his eighty-ninth birthday.

The name of Storer has been associated conspicuously with Boston medicine for the better part of a century. The younger members of the profession who frequent the halls of the Boston Medical Library are familiar with that admirable portrait by Vinton of the father of Dr. Storer. Dr. D. Humphreys Storer, Professor of Obstetrics in the Harvard Medical School, was not only a prominent member of the faculty, and one of the groups of medical practitioners of his day who had the health of Boston families in his keeping, but enjoyed a well deserved reputation as one of the pioneer students of the natural history of his time.

At the period during which the son came into medical life great changes were about to take place in the advancement of the science and the practice of medicine and surgery. The younger Storer was keenly alive to the situation and was a pioneer in abdominal surgery and a conspicuous participator in the controversies that arose between his colleagues and the more conservative members of the profession.

Failing health prevented Dr. Storer from carrying on his strenuous exertions and forced an early retirement from active practice. His later years have not been passed, however, in unproductiveness. Most notable are his achievements in medical numismatics, the endeavor on his part to portray in this way medical history.

Many honors, both domestic and foreign, have come to Dr. Storer in his long life, and it is pleasant to be able to record evidence of his continued activities, for it is only quite recently that the American Social Sciences Association, a branch of the National Institute of Social Science, has awarded him its gold "Liberty Service" medal for his aid "in the control of pestilence among soldiers and sailors of the United States."

It is to be hoped that many more years of such usefulness are still to be his portion.

PTOMAIN POISONING.

In a recent issue of this Journal was published an obituary of Dr. Thomas F. Harrington, in which it is said that the cause of his death was "ptomain poisoning." Further investigation of this diagnosis, with the physician in attendance upon Dr. Harrington and the death certificate, has disclosed first, that the origin of the diagnosis is unknown, and second, that the immediate cause of death was uremia, the apparent result of a neoplasm which obstructed the ureters.

In this connection it is interesting to note that in Europe the diagnosis "ptomain" poisoning is seldom made and the use of the word "ptomain" in any connection is very rare and quite guarded. On the other hand, in this country, the term has gained a most popular and unwarranted usage. The layman uses it for all acute gastrointestinal attacts, especially if these are traceable in any way to canned foods. In the eyes of the profession, such a diagnosis is becoming, as Jordan so aptly puts it, "a convenient refuge from etiologic uncertainty." It seems worth while here to call attention to the study of this question which is being conducted in the Department of Preventive Medicine and Hygiene at the Harvard Medical School. During the year and a half that these studies have been in progress no ptomains have been discovered which are capable of causing gastrointestinal or other symptoms. Also, in all cases where the diagnosis "ptomain" poisoning has been investigated, in not a single instance has it been found to be based upon fact. In the opinion of these investigators such a diagnosis lacks precision and ought rarely, if ever, be made.

MEMORIAL PROFESSORSHIP TO DR. JAMES JACKSON PUTNAM, 1846-1918.

It is hoped that there may be an endowment of the Professorship of Diseases of the Nervous System in the Harvard Medical School in memory of Dr. James Jackson Putnam.

In the development of this increasingly important branch of medicine, Dr. Putnam was a pioneer in Boston and in the country at large, while he was widely recognized in Europe as a neurologist of distinction. He inaugurated the neurological clinic at the Massachusetts General Hospital in 1872, and through forty years of service was devoted to its interests, and to teaching in the Harvard Medical School. In 1893 he was appointed the first Professor of Diseases of the Nervous System; the professorship was then, and has remained, without endowment.

It is believed that those who have known Dr. Putnam may like to join in endowing this professorship which should always bear his name, and which would fulfill his hope that neurological work of a high order might be developed at the Harvard Medical School. To all of us who knew Dr. Putnam it would also commemorate the devotion and the self-sacrificing work of his lifetime.

President Lowell sends the following letter:

Harvard University, Cambridge,
February 8, 1919.

My dear Dr. Walcott,

The suggestion of founding a Professorship of Diseases of the Nervous System in memory of Dr. James Jackson Putnam appeals to me deeply both on account of the value of such a Professorship to the Medical School, and on account of the deep affection I had for Dr. Putnam and of my reverent esteem for his character. The foundation ought to appeal strongly to all who recognize the ever-increasing suffering caused to our over-sensitized community by nervous ailments, and to all who knew Dr. Putnam as patient or as friend.

Very truly yours,
A. Lawrence Lowell.

It is hoped that $50,000 may be raised as endowment, of which more than half is already promised. A reply from any one who proposes to contribute is requested now, but payment, either by check or in Liberty Bonds, may be made any time before December 31, 1919.

H. P. Walcott,
Charles C. Jackson,
Edward W. Emerson,
Edward H. Bradford,
Moorefield Storey, *Treasurer*,
735 Exchange Building, Boston.

MEDICAL NOTES.

Medical Aeronautic Congress.—The Inter-Allied Medical Aeronautical Congress opened March 10 to consider the medical problems arising from aviation. Resolutions dealing with physical and psychological tests applicable to candidates for pilots' licenses, the control of flights to high altitudes and the use of oxygen by aviators were presented. It was decided to form a permanent committee to present the views of the medical profession in matters pertaining to aviation. Professor Guillain of the University of Paris was elected president. The United States is represented by Dr. L. G. Rowntree of Minneapolis.

American Hospital at Rheims.—It is reported that word has been received at the Paris headquarters of the American Fund for French Wounded that the French Government will deed to the Fund ground in the environs of Rheims on which a great American hospital will be erected. The sum of $100,000 for the purpose has been guaranteed by the American Fund Organization in the United States, but an endowment fund must still be raised.

Army Health Reports.—Satisfactory health conditions in army camps at home, with a decided decline in the number of influenza and pneumonia cases, is noted in the report of the Surgeon-General for the week ending March 7. The report from France is not so satisfactory. There were three times as many cases of pneumonia in proportion as there were among the troops at home, and out of a total of 516 deaths in the Expeditionary Force during the week, 414 were due to pneumonia.

Third Outbreak of Influenza in England.—According to recent reports in the *British Medical Journal*, a third wave of epidemic influenza is gathering. In London, for the week ending January 25, thirty-three deaths were attributed to this disease; in the two following weeks fifty-eight and one hundred deaths occurred; and for the week ending February 15 two hundred and seventy-three were reported. Reports from other large cities show that the third wave is spreading throughout the entire country. It is also noted that from Scotland, where influenza figures are not published every week, diseases of the respiratory tract, pneumonia, bronchitis, and pleurisy, have shown a steady increase from the week of January 25; but in these statistics allowances are made for atmospheric conditions. It is not anticipated, however, that this third wave of influenza will reach so great a height as the last one which occurred in the autumn. The autumn figures were reported as 80, 371, 1256, 2458, 2433, 1665, 1278, 942, 660, 332, 186, 95, 65 (the last figure was for the week of January 4). A calculation made on the basis of the autumn figures would give an approximate estimate for the present recrudescence as 70% of the previous mortality. However, this estimate is only a conjecture and given not as an alarm, but as a caution to the general public.

Infant Mortality Rates in Scotland.—With the advent of universal reconstruction measures, child welfare work takes a leading part among the interests of every nation. There has recently been included in the *Scotsman*, a newspaper published in the City of Edinburgh, a word concerning the death rate for the new-born during the month of January. This method of acquainting the laity with figures will doubtless have a striking effect on the public who, because statistical reports of the public health do not ordinarily come to their notice, will in this manner better realize that the neonatal death rate is a matter of grave concern. It is a striking indication of the health of a country. The Edinburgh report, for example, in comparing the death rate for the new-born in January, 1918, with that of 1917, adds that "during the month of January thirty deaths occurred in the case of infants under the age of one month, being equal to an annual neonatal mortality rate of 67.4 per 1,000 births. For the corresponding month of the last year the rate was 37.2 per 1,000 births." There are times, during prevalence of epidemics, etc., when the infantile birth rate may be higher than at others, and is cause for alarm, but under normal conditions the practice of supplying the public with data relative to the mortality rate among infants will go far toward helping the cause of the child welfare workers in their efforts for success.

Honor for Major-General William C. Gorgas.—Major-General William C. Gorgas, formerly Surgeon-General of the United States Army, has been named a Commander of the French Legion of Honor.

Appointment of Dr. R. M. Strong.—Dr. R. M. Strong has been appointed professor and head of the Department of Anatomy at the Chicago College of Medicine and Surgery. Dr. Strong has been professor of anatomy at Vanderbilt University.

Appointment of Dr. Joseph C. Bock.—Dr. Joseph C. Bock has been appointed professor of physiological chemistry in the School of Medicine of Marquette University at Milwaukee. For five years Dr. Bock has been instructor at Cornell University Medical School.

Admission of Women to Medical Universities.—A recommendation has been approved by the corporation of McGill University that women should be admitted to the study of medicine provided they have completed the first and second years in arts at McGill University, have taken an Arts degree from a recognized university, or are prepared to take the double course of B.A. and M.D. or B.Sc. and M.D. at McGill University. The medical faculties of Toronto, Queen's, and the western universities are now willing to admit women students.

Influenza Among Manitoba Indians.—Approximately 750 deaths from influenza have occurred among the 14,794 Indians of Manitoba. There has been a ten per cent. death rate among the 5,000 Indians in the northern part of the province.

American Red Cross Commission for Poland.—The American Red Cross Commission for Poland, comprising 50 members from all parts of the United States, under the leadership of Lt.-Col. Walter C. Bailey of Boston, has left Paris for Poland and will travel by way of Innsbruck, Vienna, and Cracow. Reports from Poland state that typhus is spreading in all parts of the country. Medicine is being hastily sent from France and from Red Cross warehouses in Danzig, Copenhagen, and Berne. Cholera, smallpox, and trachoma are also prevalent.

Col. Robert E. Olds, American Red Cross commissioner for Europe, is reported to have said, "This is the first concerted and systematic effort to relieve unhappy Poland, which needs help more than any other place in the world."

Joint Influenza Committee.—A joint influenza committee has just been created to study the epidemic and to make comparable, as far as possible, the influenza data gathered by the Government departments. The members of this committee, as designated by the Surgeon General of the Army, the Surgeon General of the Navy, the Surgeon General of the Public Health Service, and the Director of the Census, are: Dr. William H. Davis, chairman, and Mr. C. S. Sloane, representing the Bureau of the Census; Dr. Wade H. Frost and Mr. Edgar Sydenstricker, of the Public Health Service; Colonel D. C. Howard, Colonel F. F. Russell, and Lieutenant-Colonel A. G. Love, United States Army; Lieutenant-Commander J. R. Phelps and Surgeon Carroll Fox, United States Navy.

American Board for Ophthalmic Examinations.—In a previous issue of the Journal we called attention to an examination of the American Board for Ophthalmic Examinations, which was to have been held in New York on October 25, but was cancelled because of the serious epidemic of influenza at that time. An examination will be held in Philadelphia on June 6 and 7, 1919.

Medical Attendance by Seaplane.—A physician of the United States Public Health Service on the North Carolina coast has been treating influenza patients for fifty miles up and down the coast, reaching his patients by seaplane. Since it was impossible for him to cover the route between fourteen coast guard stations, which are seven to eight miles apart, in any other way, a naval hydro-airplane, a pilot, and a machinist were placed at the doctor's disposal.

Birth Rate in England and Wales.—The birth rate last year for England and Wales was lower than the death rate. The death rate in London was 18.7 against a birth rate of 15.8. This fact has aroused the feeling that greater efforts should be made to save the lives of babies born out of wedlock. Of the 37,000 illegitimate births annually in England, about 20 per cent. die before they are one year old.

Union of English Physicians.—The London *Times* reports that in view of the impending establishment of the Ministry of Health and its consequent effect on the medical profession, a mass meeting of London physicians, both men and women, was held on February 23, and by a vote of 207 to 30 passed a resolution favoring the immediate organization of the profession on a trade union basis. The meeting was distinctly representative of the profession, and the formation of a medical union may be expected within a short time. Its purpose is to safeguard the interest and the dignity of the profession. Twenty thousand members are expected to join the union. An amendment urging that the medical union join the trade union congress and become regularly affiliated with the labor party was rejected by a large majority.

BOSTON AND MASSACHUSETTS.

Week's Death Rate in Boston.—During the week ending March 15, 1919, the number of deaths reported was 275 against 289 last year, with a rate of 18.01 against 19.21 last year. There were 46 deaths under one year of age against 49 last year.

The number of cases of principal reportable diseases were: Diphtheria, 64; scarlet fever, 48; measles, 6; whooping cough, 22; typhoid, 1; tuberculosis, 59.

Included in the above were the following cases of non-residents: Diphtheria, 19; scarlet fever, 4.

Total deaths from these diseases were: Diphtheria, 4; whooping cough, 2; tuberculosis, 22.

Included in the above were the following non-residents: Whooping cough, 1; tuberculosis, 1.

Influenza cases, 106; influenza deaths, 14. Smallpox, new cases, 4.

Home for Aged Women in Boston.—The sixty-sixth annual report for the year 1918 of the Home for Aged Women in Boston calls especial attention to the remarkable health record of the Home in the past year. During a period of seven months, not one death occurred, and in spite of the terrible influenza epidemic which has swept over the city, there has not been a single case among the inmates of the Home. The war work has been continued through the year; and 3,585 articles, including socks, sweaters, button bags, slings, T-bandages, and many other garments have been made and sent to the Red Cross, to the Peter Bent Brigham Surgical Dressings Committee, and to the American Fund for French Wounded. There were admitted to the Home during the year 11 persons, making a total of 99 inmates. There were eight deaths. Since the opening of the Home in 1850, there have been admitted 719 women, with 560 deaths during this time. Sixty-two beneficiaries, amounting to $5,875, have been granted nurses who have worked in Boston and are now in need. The Home appreciates the generosity of those who have helped to support it, and trusts that among many worthy appeals, the Home for Aged Women will not be forgotten.

Influenza in Boston and Massachusetts.—On March 13, 16 influenza cases and 12 lobar pneumonia cases were reported to the Health Department, with 8 deaths from pneumonia and 3 from influenza. On March 14, 20 cases of influenza with 1 death and 6 cases of pneumonia with 8 deaths were reported. There were 10 influenza and 9 pneumonia cases, and 2 deaths from influenza and 2 from pneumonia on March 15.

On March 17, 13 influenza cases and 1 of pneumonia, with 1 death attributed to each cause, were reported to the Health Department. Seventeen new cases of influenza and 6 of pneumonia, with 6 deaths from lobar pneumonia, were reported on March 18.

Influenza in Boston and Massachusetts.—On March 9, 29 new cases of influenza and 6 of lobar pneumonia, with 3 deaths due to influenza and 6 to pneumonia, were reported to the Boston Health Department.

On March 21, there were 20 influenza cases with 3 deaths and 6 of lobar pneumonia with 4 deaths. On March 22, 27 cases of influenza and 8 of pneumonia, with 1 death from influenza and 9 from pneumonia were reported to the Health Department.

The Massachusetts Medical Society.

THE next annual meeting will be held in the Copley-Plaza Hotel, Boston, June 3 and 4, 1919.

THE COMMITTEE OF REVISION OF THE UNITED STATES PHARMACOPOEIA, 1910-1920.

The following circular has been received and is hereby brought to the attention of Fellows:

THE NEXT PHARMACOPOEIA.

May, 1920, only a little more than a year hence, will again witness the assembling in Washington of the delegates to the United States Pharmacopoeial Convention. This fact should stimulate preconvention activity on the part of those who have had experience with the present revision and are prepared to suggest improvements for a new edition.

It is desirable at this time that pharmacists, physicians, chemists, botanists, biological experts, or any others who use the U.S.P. IX. should submit to the chairman of the revision committee, either personally or through associations, such helpful information as their experience may have suggested, or which may have come to their attention.

These suggestions will be compiled systematically and circularized to the present revision committee, the authors being credited in each instance with the recommendations; and the compilation will be submitted to the 1920 Convention for the benefit of the new committee of revision.

You are earnestly urged to coöperate with the committee of revision in the preparation of this report, and it is requested that in sending in your suggestions, the special form enclosed be employed. Please use a *separate sheet* for *each subject*. As many forms as are desired will be mailed on request.

Respectfully submitted,
CHARLES H. LAWALL, PH.M.,
Chairman of the Committee of Revision of the United States Pharmacopoeia.
39 South Tenth Street, Philadelphia, Pa.

Miscellany.

IN MEMORIAM.

ALFRED MONTGOMERY GOODALE, A.B., M.D.
Æsculapian Club, Chapter 1919.

ALFRED MONTGOMERY GOODALE died suddenly from pneumonia at the Boston City Hospital on February 21, 1919, aged 29. He was taken ill the day after finishing his final examinations at the Harvard Medical School and died six days after receiving his certification for his degree.

Goodale was born in Waltham, Mass., on September 27, 1889. He graduated from Harvard college in 1913, and while at college played on its freshman football team, the varsity hockey team, and rowed on the varsity crew. He was a member of the Institute, D.K.E., Hasty Pudding, Iroquois, and Porcellian clubs.

After graduating from college, he studied in Paris for a year and engaged in business for the following year. Deciding then to study medicine, he entered Tufts College Medical School in the fall of 1915, transferring to Harvard the following year. At the Harvard Medical School he was a member of the Stork Club, and was president of his class the last two years. His fourth year in the School was spent as pathological interne at the Boston City Hospital. Had he lived, he would have commenced his interneship on the East Medical Service at the Massachusetts General Hospital, in June, 1919.

He is survived by his mother, Mrs. Alfred M. Goodale of 19 Perry street, Greenwich Village, New York City; a brother, Captain Fairfield Goodale, now with the American Expeditionary Forces; and two sisters, Dorothy Dana and Catherine.

No man in his class was more respected and beloved than Montgomery Goodale; no man gave more promise of future usefulness in his profession. The vacancy he leaves in his class cannot be filled; his most lasting monument will be in the memory of those who associated with him.

The Leader we looked to is vanished,
  We shall wish for his counsels in vain;
The good that he promised is banished,
  To return to us never again.
Let us better ourselves by reflection;
  Guide true to the light that he shows;
Let us seek, in his memory, perfection;
  Let the stream broaden out as it flows.

MEMORIAL TO DR. CUTTS.*

Whereas: Our fellow member and late secretary, Henry M. Cutts, has for many years been Medical Examiner in the eighth district of Norfolk County, representing the Town of Brookline, and, by his efficient and faithful service in office, and, by his professional ability and nobility of character, has gained for him the confidence of the medical profession and of the community and has endeared himself to all who had the good fortune to know him; now be it resolved that, in the decease of Henry M. Cutts the Massachusetts Medico-Legal Society has been deprived of a member whose attainments and accomplishments have always been exercised for the good of the profession and the community, and in his decease the Society has lost a loved and valued member, and the Commonwealth of Massachusetts a faithful and efficient public servant.

Resolved: That a copy of these resolutions be spread upon the records of the Society and sent to The Boston Medical and Surgical Journal and to the family of our late member.

Committee:

William C. Mackie, M.D.,
George L. West, M.D.,
Recording Secretary.

Correspondence.

CONCERNING "HARVARD UNITS."

Boston, March 14, 1919.

Mr. Editor:—

Among the Medical Notes in your issue of March 13, I find a statement which, owing to its inexactness, causes me embarrassment, for it is somewhat unfair to the group of officers constituting the professional personnel of U. S. Army Base Hospital No. 5.

The facts of the case, which may not be without historical interest, are as follows:

In 1915 the Western Reserve University sent a unit to Paris to serve for a period of three months in the American Ambulance at Neuilly. This group was followed by a "Harvard Unit" which served for another three months, and in turn by a group from the University of Pennsylvania, which, under Dr. Hutchinson, remained on duty until this country came to participate in the war, when the American Ambulance was taken over officially by our army.

The success of these ventures led to a proposal, fostered by Mr. Robert Bacon, Sir William Osler, and others, that certain American Universities send similar units to serve with the British, and Harvard contributed a unit, latterly under the command of Dr. Cabot, which, since 1915, was stationed at No. 22 General Hospital, Camiers, with the B. E. F.

Another outcome of the rotating university services at the American Ambulance was the proposal, from the Surgeon-General to Dr. Crile and myself upon our return in 1915, that corresponding units be organized, under university auspices, which could be called upon for like services in case this country should be drawn into the conflict.

Steps had been taken in this direction when it was pointed out that, according to statute, organizations of this sort in time of peace would have to be called into being by the American Red Cross Society. Consequently, a meeting was held in Washington and a representative of the Army, Colonel Kean, was attached to the Red Cross for the purpose of organizing a number of units along these lines, their personnel to represent certain selected medical schools and hospitals in the country, the Harvard Medical School being included.

In the course of time, Colonel Kean visited Boston and, for various reasons which need not be gone into, it seemed best to have three units from this community. One of them was to be recruited from the staff of the Massachusetts General Hospital under the direction of Dr. Washburn, another from the Boston City Hospital under the direction of Dr. Dowling, and the third was, as originally proposed, to be a Harvard Medical School unit of which I was appointed director. The membership of this unit was chosen so that it would be as representative as possible of the Medical School and its affiliated hospitals—the Massachusetts General, the Boston City, and the Children's Hospital, the Eye and Ear Infirmary and the Dental School, as well as the Brigham Hospital. It is incorrect, therefore, to state that Base Hospital No. 5 was composed of doctors and nurses from the Brigham Hospital, for, though it contributed generously, it can make no such claim.

After our entry into the war, the Red Cross hospitals automatically reverted to the Army, and the three Boston Hospitals were successively numbered Base Hospitals Nos. 5, 6, and 7. Base hospital No. 5, owing perhaps to its early start in organization, was one of the first six hospitals sent overseas, all of which were apportioned to the British Expeditionary Force. It originally took over a hospital in Camiers, and its official title in the R.A.M.C. was No. 11 General (Harvard, U.S.A.) Hospital. After November, 1917, the unit was transferred to Boulogne and became officially known as No. 13 General (Harvard, U.S.A.) Hospital.

I do not believe that the medical officers who first or last have been on the staff of U.S.A. Base Hospital No. 5 are particularly interested in having the unit called by other than this official title, for it happens to be the only one of the three units organized with a Harvard University background which contributed to the medical services of the A.E.F., many of its staff having been detached for special services and a mobile hospital having been organized from its personnel.

With all this in view, whatever additional designation, if any, may be given to Base Hospital No. 5, I wish to make clear for the sake of my colleagues, enrolled from other hospitals, who held important positions in the organization, that the unit was not organized as a Peter Bent Brigham Hospital unit, but as a Harvard Medical School unit.

I hope that you may find space for this perhaps too lengthy statement in your columns.

Very truly yours,
Harvey Cushing.

NORMAL HUMAN BLOOD PRESSURE.

Camp Devens, Mass., March 15, 1919.

Mr. Editor:—

The conclusions as to the normal human blood pressure reached by my fellow-townsman, Dr. C. J. Enebuske, as reported in this Journal, March 6, (clxxx, 10, pp. 272-275) are both so sweeping and so very far at variance with all recent researches known to me that I think it is incumbent on the gentleman to *show us* how the surprising leading opinion was developed in his mind. One would like to know the nature of the "radialis-arteriometer" and the physics of its action, especially. The tendency at present is to lower our former estimate of the average arterial tension rather than to raise it.

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* Resolutions passed at a meeting of the Medico-Legal Society.

This medical matter is too important to be passed over uncontested, for some busy, uncritical practitioner somewhere might conclude forthwith that the "maximum tension of the radialis artery at a level higher than 140 mm. but not exceeding 150 mm. Hg. (really) is the normal arterial tension" and he might act accordingly. Won't Dr. Enebuske give us the technique? A great many earnest, not to say scientific, persons have been "born in Missouri."

Sincerely,
George Van N. Dearborn.

SOCIETY NOTICES.

Suffolk District Medical Society.—The annual meeting of the Suffolk District Medical Society will be held April 30, 8.15 p.m., at the Boston Medical Library, 8 The Fenway.

Speakers:

Dr. David L. Edsall. "Some Relations of the Practitioner to Industrial Medicine."

Dr. Cecil K. Drinker. "An Unusual Type of Metallic Poisoning."

J. Bapst Blake, M.D., *President*,
George R. Minot, M.D., *Secretary*.

Censors' Meeting.—The Censors of the Suffolk District Medical Society will meet for the examination of candidates at the Medical Library, No. 8 The Fenway, Thursday, May 8, 1919, at 4 o'clock.

Candidates should make personal application to the Secretary and present their medical diploma at least two weeks before the examination.

George R. Minot, M.D., *Secretary*.

Norfolk South District Medical Society.—Meeting for Medical Improvement, United States Hotel, Boston, April 3, 1919, at 11.30 a.m. Reader, Ralph C. Larrabee, M.D., Boston. Subject, "Disturbances of the Heart Rhythm" (for F. H. Gile, M.D., Braintree).

C. A. Sullivan, M.D., *Secretary*.

RECENT DEATHS.

Dr. Charles S. Spencer, First Lieutenant, Dental Corps, U. S. A., of Concord, died, on March 13, at the Massachusetts General Hospital. He had been stationed recently at Camp Greenleaf, Oglethorpe. Dr. Spencer was a graduate of the Harvard Medical School and Tufts Dental School, and was a member of the Massachusetts Dental Society. He was born in Chelsea, on May 2, 1869, and had practised dentistry in Concord for eight years.

Dr. Clarence John Blake died recently at his home in Boston. He was born on February 23, 1843. He received his medical degree from Harvard in 1865. After studying abroad he received the degree of OM., U. of Vienna, in 1868. Dr. Blake lectured and became professor of otology until 1913, when he resigned.

He was an active member and took a leading part in the management of many institutions, such as the Massachusetts Charitable Eye and Ear Infirmary, and the Children's Hospital. To literary matter dealing with his profession he contributed many articles. From 1879 to 1882 he was editor of the *American Journal of Otology*. He was a member of the American Otological Society and was president of it from 1876 to 1877. He was also a member of the Boston Society for Medical Improvement and of the Boston Society for the Advancement of Physical Education. He was elected president of the congress of ear specialists in August, 1912.

Dr. Ellenwood B. Coleman died recently at his home in Nantucket, where he was born in 1862. Dr. Coleman studied medicine at the Chicago Homeopathic College, and was graduated in 1888, when he returned to practise in Nantucket.

Dr. Ernest F. Norcross died recently at his home in Dorchester. Dr. Norcross was born in North Grafton in 1851. For the last seventeen years he has been examining physician for the Metropolitan and Globe Life Insurance Companies. He was a graduate of the Homeopathic School at Boston University.

Dr. Henry Leonard Dwight, of San Diego, Calif., died at the Crary Hospital, Dartmouth, Mass., Sept. 6, 1916, of chronic nephritis. He was a native of New Bedford and joined the Massachusetts Medical Society in 1896 from that city. He had lived in California since 1912.

Dr. Heiman Caro, Captain, M.C., U. S. Army, of Chelsea, Mass., and formerly of the staff of the Monson State Hospital, died in Mars, France, from bronchopneumonia, Jan. 22, 1919, aged 29 years. He was a graduate of Harvard Medical School in 1914, and was a Fellow of the Massachusetts Medical Society.

Dr. Charles Frederick Dole died at Sharon, March 25, aged 43 years, after a prolonged illness. He was born in Chelsea and graduated from Harvard Medical School in 1900. He joined the Massachusetts Medical Society from Dorchester, where he practised for a few years. He is survived by his widow and two daughters.

Dr. Richard Henry Lawlor died at his home in Methuen, February 12, aged 47 years. Ne was born in East Douglas, Mass., June 18, 1871; graduated M.D. from the Dartmouth Medical School in 1898; joined the Massachusetts Medical Society in 1906 and had practised at Methuen.

Dr. Everett White died at Lynn, February 27, aged 49. He was a graduate of the Baltimore College of Physicians and Surgeons in 1897 and joined the Massachusetts Medical Society in 1914.

Dr. Calvin B. King died in Belchertown, on March 21, at the age of 79 years. Dr. King was born in Ware, Mass. He was graduated from the Medical School of the University of New York and practised in Ware, Otis, Granville, and for the past 35 years in Belchertown, where he served as town physician.

Dr. Mary Walker died recently in New York, at the age of 87 years. She was the first woman commissioned to serve on the surgical staff of any army in time of war, and during the Civil War she served as assistant surgeon with the rank of first lieutenant. Dr. Walker was awarded the Congressional Medal of Honor for bravery and valuable services in the field. In 1855 she received the degree of M.D. at Syracuse, and later practised at Columbus, Ohio.

Dr. Abel Fitzwater Price died in Springfield, on March 22, at the age of 71 years. Dr. Price was born in Lawrenceville, Pennsylvania, and was graduated from the University of Pennsylvania Medical School in 1868. In the same year he was appointed assistant surgeon in the Navy. He was Admiral Dewey's fleet surgeon at the battle of Manila Bay, and was president of the Naval Examining Board from 1904 to 1909. At the time of his death, Dr. Price was taking a course at the Massachusetts Agricultural College.